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Clinical Lecture.

CHRONIC INFLAMMATION OF THE UTERUS, WITH MUCOUS POLYPI.[1]

By E. E. MONTGOMERY, M.D.,

Professor of Obstetrics and Gynecology at the Medico-Chirurgical College; Obstetrician to the Philadelphia Hospital; Gynecologist to the St. Joseph's Hospital.

GENTLEMEN: I bring before you to-day a patient, thirty-eight years of age, who is married, had a child nine years ago, and has never been pregnant since. She complains of a great deal of distress, a sensation of weight in the pelvis, of irregular menstruation and a considerable discharge. Upon examination the uterus is found larger than normal, and projecting from the external os is a small growth hanging by a pedicle, which is freely movable.

Such growths are not an unusual sequel of long continued inflammation of the uterine mucous membrane. They result from the hypertrophy of its glands, which, as they enlarge, drag down, and in this way form for themselves a pedicle. As the hypertrophy increases, the contractions of the uterus tend to force it down, and thus increase the length of the pedicle. These growths may project from the orifice of the uterus, or may be situated at various points within the uterine cavity. In some cases they only make their exit at the external os during the congestion consequent upon menstruation, and in the intervals are situated out of sight within the cavity of the organ. They may be small, or, in some cases, attain to considerable size, forming a grape-like cluster.

[1] Clinical lecture delivered January 26, 1892, at the Medico-Chirurgical Hospital.

Where one of these growths is situated close to the external os, it may, during the menstrual period, be forced into the orifice, thus forming a valve which decreases the ability of the uterus to empty itself, causing severe pain, hence being one of the sources of dysmenorrhœa.

The origin of the growth in the uterine cavity or the cervix can be determined by the character of the glands; the glands of the cervix being racemose, while those in the uterus are single. The cervical glands not unfrequently have their ducts occluded as the result of inflammation of the uterus, thus producing small cysts which may stud the margin of the external os, or, indeed, may be found some distance from it upon the vaginal portion of the cervix. In some cases inflammation has been such as to lead to the formation of a large number of these cysts, producing what is known as cystic degeneration of the cervix, and in some cases they are situated at considerable distances from the os upon the vaginal portion.

Some years ago I saw a woman who had never given birth to a child, and, indeed, never been pregnant, who presented the appearance of the external os and cervix similar to what is found in some cases of laceration. It had simply been a rolling out of the cervical mucous membrane as the result of these cystic glands. These had subsequently ruptured, leaving cicatricial depressions which covered the entire extremity of the vaginal portion of the cervix. The cervix had undergone dilatation as a result of the eversion of its mucous membrane. The presence of these growths, when they project beyond the cavity of the uterus, are usually readily determined by the touch, and where any doubt exists it is readily dispelled by the use of the speculum. The condition is

one which is not remedied by the mere removal of the growth; it would seem a very simple procedure to accomplish the removal of these growths, but it is important to remember that the mucous membrane is in such a condition as to render it exceedingly irritable, and any laceration of it, particularly where it has taken place without antiseptic precautions, is likely to result in lighting up an extension of inflammation, hence in the removal of such a mass it should be considered the first indication to accomplish thorough sterilization, so that we here first wash out the vagina and about the cervix with a disinfectant solution, using the acid sublimate, and following this with peroxide of hydrogen. The mass is then seized with a pair of polypus forceps and twisted off, or dragged down, until with scissors the pedicle can be cut off at its base.

I have seen several patients in whom efforts for the removal of these growths, which of themselves were giving but little discomfort to the patient, from want of care have led to the development of an inflammation in the pelvis of such a character as to imperil the future health and even life of the individual.

As we said before, the mere removal of a growth is not sufficient, however, to relieve the patient, and the uterus should be thoroughly dilated, with a view to determine whether there are not similar growths present within the cavity, and to correct the condition which has led to its development. As a result of such a growth, the patient is likely to suffer from increased discharge, and not unfrequently from menstrual irregularity. The growths are not always situated so low down that they can be readily recognized; such a condition situated high up within the cavity of the uterus, giving rise, as it may, to irregular bleeding, has been not unfrequently diagnosed as a case of malignant disease.

A patient came under my observation only recently in this hospital, a woman forty five years of age, in whom there had been irregularity of the menstruation, with more or less pain, leading to the supposition that she was suffering from cancer of the body of the uterus. With a view of determining the diagnosis, she was placed under an anæsthetic, the uterus thoroughly dilated, when it was found that she had a small polypus situated close to the fundus, which had undoubtedly been the cause of the bleeding. The removal of the mass, curetting the uterus and drainage, resulted in complete relief of the unpleasant symptoms. In the examination of these cases where it is desirable to explore the cavity of the uterus, the dilatation, in my judgment, is best accomplished by the use of a series of bougies, for the reason that they dilate all parts of the uterus alike, and do not make undue pressure or stress upon the sides of the organ, as is the case where the parallel bar dilators are used. For this purpose I have a series of bougies, two sizes upon one handle, or rather a bougie upon either end of the instrument, which run up to No. 43. By these instruments, the uterus can readily and rapidly be dilated to admit its exploration by the finger. If no growths are present, we may simply content ourselves with curetting the surface and the introduction of a drainage tube. At the same time the dilatation is accomplished, an application may be made to the surface, when the medicament will come in contact with the entire cavity of the organ. The manner in which these applications are ordinarily made, the greater portion of the medicament is squeezed out at the external os without being brought in contact with the affected surface. The importance of careful, thorough and early treatment of such conditions can be appreciated when it is realized that probably the great majority of cases suffering from salpingo-ovaritis arise as a result of extension of disease from the uterine mucosa. It must be remembered that there are three openings from the body of the uterus: the external os and the two openings of the fallopian tubes. Any condition which gives rise to obstruction of the former will lead to the regurgitation of fluid and of retained discharges through the latter. The result is that the tubes become distended, the secretion is increased, and a condition most favorable for subsequent development of disease afforded.

While we believe that, in general, the best treatment of inflammation of the uterine mucous membrane is the thorough dilatation of the uterus, curetting its cavity, washing it out, rest and drainage, yet we cannot always induce our patients to submit to such a plan of treatment. In those cases of catarrhal endometritis, particularly where the cervix is plugged up with a large quantity of mucus and is pretty well dilated, we may greatly improve the condition without resorting to such extreme measures. It is important, however, in these cases to thoroughly clean out the cervical canal, get rid of the discharges that are present, so that our applications may be made directly in contact with the affected surface. If, as is usually done, a cotton-wrapped probe dipped in a medicated solution is carried into the cervix without previous removal of the mucus, the medicament is thoroughly neutralized by the discharge, and has but little influence upon the canal. The use of the blunt curette, going over carefully the entire surface, cleans out the discharge filling up the canal, so that any agent applied will come directly in contact with the diseased membrane.

The first treatment of such a case will probably be attended with considerable bleeding; this, however, has no deleterious effect, as it simply unloads the engorged blood-vessels. Where it is profuse and continues too long, it may be arrested by the application of cotton wet with hot water. After drying the surface, the medicinal agents should be applied; to accomplish this, we may take the pipette, holding a few drops of liquid, carry it into the cervix, and permit the fluid to be discharged, drop by drop, until the entire surface is thus brought in contact with it; or the cotton-wrapped probe may be used for a similar purpose, mopping over the diseased surfaces. A tampon of iodoform gauze subsequently serves an excellent purpose for promoting drainage, supporting the uterus and preventing decomposition and infection. This tampon may be permitted to remain from two to three days. Formerly these cases were treated by the introduction of a solid stick of nitrate of silver. This was permitted to remain, dissolve, and the surface to be affected by it. It cured by destroying the uterine mucous membrane with its glands, and replacing normal by cicatricial tissue. It is now recognized that all such cases are treated better by mild agents, using one to two of carbolic acid and iodine; the tincture of iodine pure, or a weak solution; 10 to 20 grains of the chloride of zinc, or sulphate of zinc; the fluid extract of hydrastis, and other astringent agents. Experience has disclosed that patients do better with mild applications than where more severe remedies were used. In all such cases, it is important to maintain the nutrition and improve the general condition.

A PHILADELPHIA druggist had been arrested for dealing in lottery tickets. Four thousand per cent. satisfies some people, but not all.

OPERATION FOR PAROVARIAN CYST.[1]

By WILLIAM GOODELL, M.D.,
Professor of Gynecology.

THE woman before you is single, and thirty-five years old. She came to me with the following history: Eight years ago she had some pelvic trouble which, from her description, seems to have been an intense acute inflammation of the ovaries. Within the last few years she had noticed abdominal enlargement, which of late had become more marked. She missed her monthlies in October, having previously been regular; they reappeared in November. You can all see that she is much emaciated.

The possibility of pregnancy at once suggests itself to your minds, but look at her breasts, they are withered and contain no milk whatever. Besides that, I examined the womb before the case was brought in, and feeling pretty sure it was empty, passed a sound which showed its depth to be three inches, and that its cavity ran toward the left. With the sound in the womb I could turn it over from side to side, additional evidence that it had no relation with the tumor. On palpation I find fluctuation exceedingly well-marked.

This sympton, together with the long existence of the tumor, its varying degrees of tension, the freedom from all symptoms of pain or of local annoyance, and its recent rapid growth, lead me to think we are dealing with a parovarian cyst. On the other hand, her emaciation is a strong argument against this diagnosis.

But so nice a diagnosis is unnecessary; we have here evidently a tumor, which must be removed, whatever it is.

Now, what is a parovarian cyst? It is a dropsy of one or more of those tubules found in the broad ligament below the ovary. It is wholly distinct from the ovary, but the latter is often found plastered to the surface of the tumor.

As I told you, this woman was carefully examined for signs of fœtal life, and I must confess that there was a sort of placental murmur and a very wonderful resemblance to the motions of a child. But I attributed these symptoms to the pressure of the tumor on the aorta and to nervous contractions of the muscles; yet I may be mistaken and she may be pregnant. Therefore, one golden rule for abdominal sections is: Always begin with an exploratory incision. That is to say, make your incision at first only long enough to establish your diagnosis. Afterwards, if needful, enlarge it to the requirements of the operation. The cautious operator is the one who gets into the fewest scrapes—and "scrapes" is a mild term for unexpected complications which may exist or which may arise.

This woman was expecting her monthly period today. Now, had it come on, would I have postponed the operation? No indeed! for I have learned, through a large experience, that mensturation does not mar the success of such an operation. Yet, I do not select the period of mensturation for an operation, whatever it may be. Nor would I operate on the womb itself during the flow. Under such circumstances, the unexpected appearance of the monthly flow is very provoking, when one has arranged the day and hour of an operation. For, often, when a patient comes from a distance, the excitement and the jolting of the journey precipitate mensturation to such a degree as to bring it on many days before the regular time.

The incision is made in the median line and shows the abdominal walls to be very thin. There is no particular objection to going directly through the rectus muscle, but, when the linea alba can be found, it is better to avoid cutting the muscle. An incision in the linea alba severs fewer bood vessels than one on either side of it, in the vascular recti muscles. Having cut through the fascia and underlying fat, on nicking the peritoneum, the cyst is exposed. The cyst wall is very delicate looking, is covered with small vessels and has the appearance of a cyst of the parovarium, although I am not absolutely certain it is such. I now puncture the tumor and allow its contents to drain off through the trocar. Notice the color of the fluid—it has a slightly opalescent hue. Usually the fluid from these cysts is almost as clear as spring water. Occasionally it has a greenish tinge. Then comes the ovary, spread out over one side of the cyst, which proves it to be of the parovarium. Here, on the left side is an adhesion to the colon which I ligate and cut away. The bladder is also adherent on the right side. We do not usually have intestinal adhesions with parovarian cysts, but in this case they are the result of the pelvic inflammation from which she suffered eight years ago.

The womb is enlarged and contains multiple fibroids; in order to prevent their further growth we shall remove the other ovary, whether it be diseased or not.

Now the question comes up: Is this cyst the result of that inflammation which occurred eight years ago? I do not know. I have watched many enlarged tubes and diseased ovaries and know of no instance in which they developed into tumors.

One peculiarity of the parovarian cyst is its varying degree of tenseness. Sometimes its walls are flaccid, at other times very tense. This characteristic is absent in ovarian cysts. Another peculiarity is the very slight constitutional disturbance. Here, however, we have, with a parovarian cyst, great emaciation, which I cannot exactly explain. I presume it may be partly due to these adhesions impeding the functions of the organs to which the cyst was attached, as cysts of the parovarium are not often adherent to the viscera. Sometimes they lie between the folds of the broad ligament and great difficulty is experienced in enucleating them. You see what a small opening (2½ inches) has been made; it could have been removed through even a smaller opening than this.

Parovarian cysts sometimes disappear spontaneously, and sometimes can be cured by tapping. The best treatment, however, is to remove them, because there is danger of their degenerating into papillary growths of malignant character. You may be justified in tapping, if a lady is unwilling to undergo the operation, but the usual history is, that although the cyst may remain empty for a long time after tapping, it slowly refills, perhaps, after a number of years. After repeated tapping they may remain empty; but in view of the small mortality in this class of operations, and in view of the danger of malignant degeneration of the cysts, it is the rule to remove them whenever the consent of the patient can be gained.

The cyst has such a broad pedicle that I shall have to tie it in sections. This is very unusual in this kind of cyst, the pedicle of which is generally long and slender. Commencing disease is found to affect the other ovary, and I, therefore, remove it. The sponge placed in the cul-de-sac of Douglas comes out

[1] Lecture delivered at the Hospital of the University of Pennsylvania.

perfectly clean, so that there is very little oozing from the adhesions. The instruments have now been counted, to see that none remain in the abdominal cavity. The sponges will be counted after the sutures are in. You notice that I am very careful to bring the cut edges of the tendon of the rectus muscles, which we call the *linea alba*, exactly together. So also I like to get the skin edges in close approximation. These measures hasten union and make it more firm, thereby lessening the danger of hernia.

The after-treatment of this case is practically nothing. If she is excessively thirsty she may have some warm water with which to wet her mouth, may even drink a little of it. We try to avoid giving opium, but I do not make any iron-clad rule to that effect. Generally, when the patients get control of themselves, after such an operation, the pain is not great, but some cases suffer severely, and to these we administer opium, preferably by the hypodermic method. It arrests the functional activity of all the organs of the body, and causes temporary paralysis of the bowels, and torpidity of the liver and stomach. As a result of this paralysis we are likely to have tympanitis, so that it is best to avoid the use of this drug, if possible. I think, however, there is more danger from excessive pain than from the condition produced by opium, and I, therefore, do not hesitate to use it when the condition of the patient calls for it.

Convalescence in these cases is usually extremely prompt. I have lost but one case of parovarian cyst, and that was under peculiar circumstances. One year previous to the operation the woman had had an exceedingly severe attack of vomiting. She was reduced to the last extremity, and her life was despaired of, but she rallied and got well, much to the surprise of her physicians. Now, after I operated on her, she did perfectly well for about two weeks; then, for some inexplicable reason, she again began to vomit, as before, and actually vomited herself to death. The operation was performed at her own home some two hundred miles away from mine, and I did not see her after the operation. But she had very competent medical advice, and her death was as much a mystery to them as to me.

Original Articles.

CHANGES IN THE OVARY AS A RESULT OF MENSTRUATION AND GRAVIDITY.

By MARY A. DIXON-JONES, M.D.
(From studies made in the laboratory of Dr. C. Heitzmann.)

EVER since Malpighi first drew attention to the peculiar solid masses found after menstruation, called by him yellow bodies or corpora lutea, many authors have studied them and announced different views in regard to their origin. Still more attention has been paid to the masses imbedded in the ovaries, apparently in connection with a preceding conception or gravidity. In modern physiologies, a distinction is made between corpora lutea spuria, taking origin from menstruation, and corpora lutea vera, being the outcome of gravidity.

After a careful microscopical study of nearly one hundred ovaries, obtained mostly after oöphorectomy, all of which were found diseased, and a few obtained at post-mortem, most of which were found normal, I have come to the conclusion that the views hitherto held as to the effect of menstruation and gravidity on the ovarian tissues are not tenable. None of the authors have, it seems, correctly described the changes of the ovarian tissues, more especially of the cortex, depending upon menstruation, or rather on the bursting of a ripe follicle. It seems to me of the utmost importance to find out, what is normal and what is morbid in the cortex. How many of the changes observable can be attributed to menstruation and gravidity, and how many to morbid processes. The result of my studies, which I have carried on for years in Dr. C. Heitzman's laboratory, I now lay before scientists, with the hope that the views held up to this time will be abandoned, especially as soon as improved methods of examination and clinical observation will show their fallacy.

I will first draw attention to the normal aspect of a vertical section of the cortex of the ovary in a woman a little past puberty. (Fig. 1).

First, we notice a capsule covering the cortex, whose epithelial cover was in this specimen accidentally lost. The cortex is composed mainly of bundles of smooth muscle-fibers, interlacing almost rectangularly in a radiating and concentric direction. Between the bundles there is but a scanty amount of fibrous connective tissue, in which there is imbedded a moderate amount of blood-vessels, arterioles, veins and capillaries. In this portion of the cortex we find the ova in a state of indifference, greatly varying in numbers, in different individuals.

In one specimen of my collection I counted as many as seventy-three normal ova. In the specimen from which the illustration is taken twenty-five ova could be counted, one of which had advanced in development towards the formation of a follicle, though imperfect, on account of injuries done in the cutting procedure. The inner portion of the cortex contained muscle-bundles smaller in size and fewer in number than the outer. The size of the muscle-bundles is especially seen in the transverse section, whereas in the longitudinal bundles there is no possibility of positively saying what is muscle and what fibrous connective tissue. The lower layer of the cortex has more and larger blood-vessels (arteries, veins and capillaries) than the upper portion. In the medulla of the ovary, which contains a large number of blood-vessels, the amount of connective tissue greatly prevails over that of the muscle tissue.

If we magnify the cortex of the ovary up to five hundred diameters, we realize the larger amount of muscle present in the outer portion. (Fig. 2).

We observe the bundles of smooth muscle-fibers freely interlacing, which means that the bundles are cut longitudinally, obliquely and transversely. In the latter aspect we have the best chance of seeing the distribution of the fibrous connective tissue around and within the bundles. Each bundle is composed of groups of smooth muscle-fibers, of small size, being subdivided into smaller bundles by a scanty amount of fibrous connective tissue, the so-called internal perimysium. The smallest bundles do not contain more than five or six fibers, and a number of such small groups constitutes the bundle proper. The ovum (O) we notice is surrounded only by a slight amount of fibrous connective tissue, so slight, in fact, that its presence would easily escape attention. All around the ovum we have nothing but smooth muscle fibers, being slightly devious, nowhere forming a circular layer around the ovum. Close beneath the layer of flat epithelia, we notice an extremely narrow apparently structureless layer or membrane, Bowman's basement membrane. In the first stage of development of the ova, which can also be termed the stage of indifference, this basement membrane is either

very thin, or may be completely absent. As soon, however, as the epithelia begin to proliferate and to be transformed into stratified epithelia, the structureless membrane, as a rule, becomes conspicuous, the more so, the more the original ovum is developing into a follicle. In the ripe follicle the basement membrane is, as far as my observation goes, invariably present, and forms a broad and distinct layer between the columnar epithelia inwardly and the fibrous connective tissue, the so-called theca folliculi of DeGraaf, which we know to be fibrous connective tissue.

In reviewing the literature of the Graafian follicle we find that many excellent observers have maintained the presence of the structureless membrane, while others just as renowned have denied it. Among the more recent authors who maintain the existence of the structureless membrane, also known under the name of tunica propria folliculi, are Luschka, Waldeyer; among those who deny its existence are Grohe and Klob. John C. Dalton makes allusion to it under the name of vesicular membrane of the ruptured follicle, without describing it, or depicting it in the figure of a ripe Graafian follicle. This discrepancy is unquestionably due to the methods of preservation. In the ovaries preserved in alcohol, and mounted in Canada balsam, the structureless membrane is rather indistinct and may be overlooked, while in ovaries hardened in chromic acid solution, the sections being mounted in glycerine, there is no difficulty in seeing this layer between the epithelia and the connective tissue, not only in human ovaries, but also in those of the rabbit and the cat. It is quite possible, however, that in some follicles, or in some individuals, the structureless membrane is absent; since we know it to be at times present, at other times absent in the structure of the skin and different mucous membranes. I lay a special stress upon this layer, as I will presently show that it plays an important part in the changes observable after menstruation, which we consider identical with the bursting of a ripe follicle.

Before entering upon the topic I will briefly allude to the changes which occur in the immediate vicinity of a primordial ovum during its development into a ripe Graafian follicle. The growth of the follicle is obviously due to the increase of the epithelia, which form originally flat bodies, develop into a broad layer of stratified epithelia, being more and more markedly stratified with the advancing growth of the follicle. The periphery of the ovum, as well as the inner aspect of the follicle, is in this condition, covered with a single row of columnar epitheliam; between these two layers there is an abundance of cuboidal epithelia, which in the advancing growth of the follicle become hydropic, liquefied, furnishing the so-called liquor folliculi. The pressure exerted by the growing follicle upon the adjacent tissues causes a gradual reduction of the latter, of whatever nature, whether fibrous connective tissue, or smooth muscle, into indifferent embryonal tissue. Soon after the growth of the primordial ovum we observe around it a varying number of embryonal elements replacing the previous connective and muscle-tissues. As the follicle approaches the surface, this reduction becomes conspicuous, especially at the pole of the follicle nearest the surface. This reduction which partly softens the adjacent tissues, partly enables them to be more readily absorbed, finally leads to a thinning of the cortex and the capsule to such a degree that rupture of the follicle becomes possible in menstruation. This is a normal process, yet imitating that which we know to be pathological, and term inflammation.

After the rupture of the ripe follicle, and the escape of the ovum, together with the liquor folliculi, a gap is produced, which, as all authors admit, is first filled by extravasated blood. In an article of mine, published in the *New York Medical Journal*, May 10 and 17, 1890, is an illustration of a burst follicle, about ten days after menstruation. I now present an illustration of a burst follicle a few days later. (Fig. 3.)

We see around the ruptured structureless membrane a large number of red blood corpuscles, still recognizable as such, though rather pale, owing to the chromic acid solution, which is known to extract and dissolve out hemoglobin of the blood corpuscles. Most of the blood-vessels, including the arteries, are chocked with blood, whereas the vessel (R) is empty and collapsed, so much so that we might consider it a capillary or vein that has ruptured after the bursting of a follicle. In the immediate vicinity of the structureless membrane we observe, aside from the blood corpuscles, granular protoplasm traversed by a delicate fibrous reticulum, bearing all characteristics of a myxomatous tissue. This, as a matter of course, is most conspicuous at a certain distance from the structureless membrane, in places which are not overcrowded with red blood corpuscles. Further away the tissues of the ovary, including fibrous connective tissue and smooth muscle-fibers, are broken up into embryonal or inflammatory corpuscles, having originated partly during the growth of the follicle, and partly by the reaction following the bursting of the follicle.

The loss of substance caused by the sudden emptying of a large sac, as is the follicle, must heal by a reparative process, in no way different from that known by the name of inflammation. It may sound almost absurd to say that in consequence of every menstruation, or rather every emptying of a Graafian follicle, inflammation will be induced; still the healing process under consideration is identical in every particular with inflammation, and as long as we are lacking in our nomenclature a word designating the repair of an entirely normal loss of substance, we may call it simply a reparative process, or a physiological aspect of inflammation.

The mass surrounding the ruptured follicle is protoplasm, known also as embryonal or medullary tissue, leading to the first and earliest typical formation, that of myxomatous tissue. We see a reticulum of fibers, having spindle-shaped enlargements mainly at the points of intersection, the meshes being filled with so-called granular protoplasm, holding, aside from a varying number of red blood corpuscles, large protoplasmic bodies, mostly in the centers of the meshes, a formation known to histologists as myxomatous tissue. The question now arises, wherefrom has this first indifferent and afterwards myxomatous tissue arisen? Ever since Cohnheim's assertion that the inflammatory process consists merely in an emigration of colorless blood corpuscles, without participation of the inflammed tissue itself, a large number of experiments have been made to prove the correctness, eventually the fallacy of this assertion. I will especially quote the experiments of Ziegler, who placed, under aseptic precaution, two covering glasses sealed together so as to leave but a narrow interspace between them, under the skin of a rabbit. He saw between the covering glasses in the first few weeks, migrating protoplasmic bodies, which he considered leucocytes, and beginning from the third week of implantation of the covers, large multi-nuclear protoplasmic masses, so-called giant-cells, which he considered to have arisen

from a coalescence of a number of leucocytes. Ziegler, however, was unable to trace the transformation of the giant cells into connective tissue proper. All experiments after Ziegler have failed in proving a transformation of leucocytes or multi-nuclear protoplasmic masses into connective tissue. Nay, it has even become doubtful that the giant-cells take origin from a fusion of leucocytes; for it has been shown that such indifferent masses of protoplasm are growing from subjacent inflamed tissues, as for instance into grafted foreign bodies, elder marrow, pieces of sponge, glass plate, etc., as well as dead tissues, partly absorbed, such as ivory, necrotic bone, etc. From our present knowledge we must conclude that leucocytes will never pro luce tissue by fusion, just as little as will blood corpuscles. The myxomatous tissue around the structureless membrane of a menstrual follicle, therefore, must have grown from the surrounding inflamed tissue into the gap, filling it up first with an embryonal, and next with a myxomatous tissue. This latter is long since known to constitute the granulation-tissue always appearing, whenever a loss of substance is to be filled in, after bursting of an abscess or any wound complicated with loss of tissue.

I maintain, therefore, that the outcome of the bursting of a menstrual follicle is a new formation of tissue of repair, known as myxomatous tissue. This can be proved by facts. I here reproduce now a burst follicle, recognizable as such by the presence of the structureless membrane, filled with myxomatous tissue. (Fig. 4.)

The structureless membrane in this instance shows an unchanged diameter, and a moderate number of convolutions. It is nowhere broken, which is attributable to the fact that the section cutter did not catch the point of rupture. Outside the structureless membrane there is a line of inflamed ovarian tissue, which, perhaps, indicates a beginning morbid outgrowth of the structureless membrane, the incipient formation of a gyroma. The whole central space is filled with a delicate myxomatous tissue, accidentally broken in some places. There can scarcely be presented a stronger proof for my assertion that the result of ovulation is the production of myxomatous tissue.

Myxomatous tissue is known as the earliest formation in normal embryonal development, from which arises all varieties of fibrous connective tissue. We know that perimysium, periosteum, perichondrium and the derma of the skin appear in the second or third month of embryonal development, first as myxomatous tissue, though they are markedly fibrous later on. Of course, we will never comprehend such a transformation, unless upon the ground that the myxomatous basis-substance, sprung from indifferent protoplasm, remains protoplasm throughout, ready at any time to return onto the stage of indifference, or, in other words, into embryonal tissue, from which, in turn, will originate first myxo-fibrous, and at last fibrous connective tissue.

Fig. 5. This figue is an illustration of the changes of myxomatous into myxo-fibrous tissue. Around the collapsed and convoluted structureless membrane, conspicuous by its breadth, we observe myxo-fibrous tissue, differing from a purely myxomatous tissue by the presence of bundles, instead of single fibers, forming a reticulum. At the points of intersection we notice spindle-shaped protoplasmic bodies, the so-called fibroplasti ccells, whereas the meshes much narrower than in purely myxomatous tissue, still contain a certain amount of myxomatous basis-substance, and in the centers of the latter lie larger, apparently isolated protoplasmic bodies. The arteriole seems to have escaped changes, since its appearance is entirely normal, and it is accompanied by a layer of delicate fibrous connective tissue. The capillaries in the immediate vicinity are probably newly formed, as, in consequence of the reactive inflammation after the bursting of a menstrual follicle, most of the previous blood-vessels must have become obliterated and lost. This accounts for the peculiar fact that the myxomatous tissue primarily filling the gap of the follicle is lacking in capillaries altogether, and we can trace new sprouts of blood-vessels penetrating the myxomatous tissue only from without, by means of which, in a secondary way, vascularization of the myxomatous tissue will take place.

The last change is the appearance of fibrous connective tissue, the shrinkage of which will cause those well known cicatricial retractions upon the surface of an ovary, always present in a woman who is advanced in life, and has menstruated in the regular way. The connective tissue is at first delicate, consisting of narrow bundles, between which we find numerous protoplasmic bodies. It afterwards becomes firm, dense, composed of broad bundles, and comparatively scanty protoplasmic bodies between them. If this stage be reached, the cicatrization of the menstrual follicle is accomplished. (See Fig. 6.)

The ovary, from which this section is taken, was removed in the post-mortem room from the corpse of a woman near seventy years of age. This ovary was abounding in remnants of structureless membranes to such an extent that in every section, hundreds of which were examined, two or three of such formations could be seen. Around them invariably a territory of dense fibrous connective tissue was formed, often traceable to the surface of the ovary, where it had caused a large number of cicatricial retractions, resulting in a moderate reduction of the size of the whole organ, and a slightly hob-nail like appearance of the surface. This tissue was scantily supplied with blood-vessels and protoplasmic bodies, and only in the immediate vicinity of the structureless membrane could be seen a somewhat large number of such bodies. This cicatricial tissue, as a matter of course, lacked smooth muscle fibers, and only at a certain distance away from the structureless membrane could be found bundles of such fibres, best recognizable in their transverse sections, at first small, partly reduced to fibrous connective tissue; still further away, normal altogether. The cortex of the ovary of this old woman was normal in every respect, with the exception of the presence of a moderate number of colloid corpuscles. The number of bundles of smooth muscle fibers, though mostly reduced in their diameter, was surprisingly large. Still more surprising was the presence of a small number of ova in a state of indifference. In a hundred sections altogether only four were found, most of which were destitute of a vesicula, showing only a faintly granular yolk. The one transferred in the drawing has a plain vesicula, an incomplete amount of granules of the yolk, but a perfect wreath of flat epithelia lining the follicular wall. This fact is rather curious, since it is another indication of the fallacy that menstruation is depending upon ovulation.

What I claim to be the result of menstruation or rather the rupture of the menstrual follicle, is a broken, convoluted, structureless membrane, the lining of a previous Graafian follicle, imbedded at first in a myxomatous, and later in a fibrous cicatricial connective tissue.

This structureless membrane was known to previous observers, among whom I quote W. Waldeyer in Striker's Hand-Book of Histology, 1870. In figure 191

of this book we find a picture of the section of the ovary of an old female dog with low power. At the letter K is represented a hyaline convoluted formation, designated as a collapsed, obliterated follicle. More I could not learn about the relation of this structure to ovulation. Still I can say, such residues of menstrual follicles are very common occurrences, and especially conspicuous in ovaries preserved in half of 1 per cent. solution of chronic acid, the sections of which are stained with ammoniacal carmine, and mounted in glycerine. These remnants always take carmine to a saturated deep red, in contradistinction with the other tissues of the ovary, which usually stain but slowly. In specimens taken from ovaries preserved in alcohol and mounted in Canada balsam, the remnants of the menstrual follicles are much less conspicuous. The same is true of ovaries affected by an acute or chronic inflammation; since the structureless membrane is structureless only in appearance, but not in reality. It may break up in severe inflammatory or pus corpuscles, just as do the most resisting arteries, and thus finally become lost to sight.

With the knowledge of the effects of normal ovulation upon the cortex of the ovary we can understand the appearance of territories, greatly varying in extent, and made up of myxomatous or myxo-fibrous connective tissue. In exceptional cases, large masses of the ovarian cortex, nay, the whole ovary will be found in myxomatous change, the muscle-bundles being pushed apart, and partly lost in the myxomatous tissue, the whole ovary being enlarged and of a soft consistence. At the same time almost all ova have undergone morbid changes, which I propose to describe at some future time. In all ovaries of menstrutating women, we find but limited fields of myxomatous change, although the structureless membrane is by no means always present. This fact is attributable either to the direction of the section which does not always pass through the center of the myxomatous area; or possibly to the absence of the structureless membrane in the ripe Graafian follicle, a possibility to which I have already alluded. A field near the boundary between the cortex and the medulla, made up the myxomatous and myxo fibrous tissue illustrated in Fig. 7.

Exceptionally we meet with peculiar formations in the cortex of the ovary, composed of fibrous reticulum traversing protoplasmic masses, with faint though well-pronounced nuclei.

These peculiar changes are also noticeable in the capsule of the ovary, which is broadened in many places, and transformed into a tissue resembling fibrous cartilage, without there being present any sign of superficial oöphoritis, such as papillary excrescence, pseudo-membranes, etc. Unfortunately, the epithelial cover was stripped off in our specimen, which prevents our seeing its eventual changes. We see in the ovarian stroma all along the surface sharply circumscribed light patches, greatly varying in size, some being small, others of considerable extent. (Fig. 8.)

In the immediate vicinity, in many places, distinct myxomatous tissue, in others, medullary or embryonal tissue is observable, the latter especially abundant in the narrow zone between the light patches and the surface of the ovary. Higher amplifications show a typical structure of these light patches. In the capsule is seen a dense but slightly striated basis-substance, in which are imbedded at rather irregular intervals protoplasmic bodies partly homeogeneous and shining, partly granular, and supplied with indistinct nuclei. The capsule sends fibrous prolongations into the cortex, where a delicate reticulum of fibers is visible holding protoplasmic bodies in its meshes. The light patches themselves show a myxomatous reticulum of great irregularity, being slightly thickened at the points of intersection, traversing a protoplasmic mass which, judging from the paleness and uniform distribution of the granules, is evidently near to be infiltrated with myxomatous basis-substance. All the large and middle-sized protoplasmic fields hold in their centers globular, oblong or lady-finger-like nuclei; but faintly contoured, containing little pronounced nuclei in varying sizes. All the blood-vessels in the neighborhood of the patches are gorged with blood corpuscles and partly dilated (see Fig. 9).

If we take into consideration the way of development of myxomatous tissue, we find the clue for explaining these peculiar formations. They may be considered as protoplasm in a state of indifference, preceding the accomplished transformation into myxomatous basis substance which, as we know to-day, arises from protoplasm the same as all other varieties of basis-substance do.

We will now consider the formations which have been termed by the authors the corpora lutea of menstruation, being supposed to be the normal and invariable sequel of ovulation. Prof. J. C. Dalton has done much original work in this department, acknowledged as correct even by the best German and English investigators. In his treatise on Human Physiology, 1882, he gives the following account of a corpus luteum, after describing the rupture of a follicle: "Soon afterwards the clot, which is at first large, soft and gelatinous, begins to contract. The vesicular membrane (our structureless membrane) at the same time takes on an increased development, by which it becomes thickened and convoluted. Its hypertrophy and convolution commences earliest and proceeds most rapidly at the deeper part of the follicle. At the end of three weeks, the hypertrophy of the vesicular membrane has reached its maximum. The follicle has now become so altered by the growth above described and by the condensation of its clot that it presents the appearance of a solid body of new formation, and receives the name of corpus luteum, although its yellow color is not yet distinctly developed. It causes a perceptible prominence on the surface of the ovary and may be felt as a rounded tumor in the ovarian tissue, nearly always somewhat flattened from side to side."

According to Dalton, the yellow color of the formation under consideration is most pronounced after the third week from the close of menstruation, being caused by a fatty degeneration of its tissue.

I have in *The New York Medical Journal* of the above-mentioned date, called attention to "Another hitherto undescribed disease of the ovaries," under the name of gyroma, which are peculiar fibrous formations not unfrequently found in the cortex of the ovary. From the description of previous authors and especially the illustrations of Dalton, it follows that what I have described as gyroma, in many instances, tallies with the corpora lutea spuria of the authors. Still I must take the ground that gyroma is not a normal outcome of ovulation for the following reasons:

1. It is a product of inflammation leading to outgrowth of the structureless membrane.

2. It is invariably accompanied by inflammation of the ovarian tissue in its vicinity.

3. It is progressive and sometimes assumes large sizes occupying more than half of the ovarian structure.

4. The blood-vessels, especially the arteries, are invariably found in a morbid condition in the vicinity of gyroma, sometimes even reaching the aspect of circoid aneurism.

5. It is invariably accompanied by physical and mental derangements.

Further investigations are certainly necessary to settle the question: Are the so-called corpora lutea invariably present in ovaries after puberty, following menstruation?

That gyroma is morbid has dawned apparently on the minds of other authors. Mary Putnam Jacobi, in an article on "Ovarian Complications of Endometritis," under the name of reticulated bodies, and Patenko (Virchow, Archives, 1881), under the name of corpus fibrosum, describes formations apparently identical with what I have termed gyroma. The latter speaks of hypertrophied cicatrices of Graafian follicles, and considered these bodies as morbid degenerations of unruptured follicles. Formad (*Encyclop. of Anatomy*, Article Ovary, 1859), gives an exactly similar picture as the last stage of corpus lutum of pregnancy. Jacobi's patient, No. 1, had certainly never been pregnant. The body consisted of a homogenous waxy-looking mass, forming several narrow curves, apparently surrounding a patch of connective tissue stroma. "The origin of this strange looking body," Jacobi says, "could not be defined from its appearance." She doubts whether Formad's specimens were normal. What I have described by the name of gyroma, I have considered as the outcome of plastic inflammation and not as the formation of a tumor proper. Still there are cases in the literature of the subject in which tumors are said to have grown from corporea lutea. Coe (Fibromata and Cystic Fibromata of the Ovary) in the *American Journal of Obstetrics*, 1882, says: "I was able to collect only four authentic cases of fibrous bodies arising from the corpus lutum. Rokitansky saw two cases, Klob one case, Jenks (*American Journal of Obstetrics*, vol. vi), reported one undoubted case."

Julius Klob (Morbid Anatomy of the Female Sexual Organs, 1864), speaks of a variety of corpus luteum, in which in the interior of the follicle a certain quantity of the coloring matter of the blood has been retained and transformed to black pigment. The center of this cicatrix appears of a black color, corpora nigra. I have seen two cases of gyromata, which were of a dark brown color to the naked eye, and of a husky color in the sections. In Fig. 4 is depicted a segment of a pigmented gyroma, (P). A portion of another such pigmented gyroma is represented in Fig. 10.

We see the characteristic convoluions which some authors have compared to the convolutions of the brain, and which first induced me to select the name of gyroma. The center of this formation is empty, probably owing to the liquidation of the previous myxomatous tissue. Instead of being of a fibrous, nearly homogeneous and somewhat waxy appearance, there are crowds of pigmented bodies of varying sizes imbedded in a slightly fibrous basis substance. The arteries in the vicinity of this gyroma exhibit a hyperplasia of their muscle coats, with a high degree of waxy degeneration thereof. Middle powers of the microscope exhibit in the specimens obtained from my first case, pigmented bodies of a husky tint which uniformly pervades the protoplasmic bodies, including their nuclei. (See Fig. 11.)

Some of the pigmented bodies show light cavities in place of the nucleus; but where the nucleus is discernable, it is likewise of a husky hue. We are struck by the greatly varying sizes of the pigmented bodies. In the interstitial, slightly fibrous connective tissue, there are imbedded numerous bodies not exceeding the size of red blood corpuscles, some smaller, or only the size of hæmatoblasts. Some authors consider these bodies as the remnants of fellicular epithelia, saturated with the coloring matter of the blood. This view is scarcely tenable, when we consider the even distribution of the pigmented corpuscles and their varying sizes. These bodies are formed throughout the gyroma, and do not depend upon previous follicular epithelia. Neither is the pigment a granular one, as we see after hemorrhage, in the well-known shape of the rust-brown clusters, so common in the central portions of a gyroma. A peculiar complication of this gyroma is the presence of colloid corpuscles within the fibrous interstitial tissue. Such corpuscles were also found in large numbers in the cortex of the ovary.

The higher powers of the microscope plainly show the nature of the pigmented lumps. All the large bodies have the reticular structure of protoplasm generally. These granular formations are interconnected by means of conical threads, and since S. Striker quite recently has represented this reticulum in a colorless blood corpuscle of a newt by photography, there can be no further doubt as to its existence. The basis-substance is likewise of a faintly reticulated structure, and appears to be traversed by a faint fibrous net-work approaching in appearance that of myxomatous tissue. The pigmentation pervades all the granules in a diffused manner, rendering them smoky or husky, in contradistinction to the rust-brown pigment-clusters from hæmatoidin and hæmosiderin. (See Fig. 12.)

In conclusion, I have to say a few words about the changes in the ovary caused by gravity. It is generally maintained that, should ovulation be followed by conception and pregnancy, whether tubal or uterine, a corpus luteum virum will be formed in the ovary, from which the ovum has been discharged. Jul. Kolb, in his above quoted book, asserts that he has never made a post-mortem examination of a pregnant woman, or a woman shortly after delivery, without finding such a corpus luteum. J. C. Dalton, in his Physiology, says: "When pregnancy takes place, the history of the corpus luteum is different in some respects from that which follows an ordinary menstruation. The difference between the two kinds of copora lutea is not an essential or a fundamental one, since they both originate in the same way, and are composed of the same structures. It depends upon the difference in rapidity and degree of their development. While the corpus luteum of menstruation passes rapidly through its stages, and is soon reduced to a condition of atrophy, that of pregnancy continues its development for a longer time, attains a larger size and firmer organization, and disappears at a later period. During the fourth week the external wall grows thicker and more convoluted; its color changes to a bright yellow, and it contains a deposit of fatty matter in the form of microscopic globules. By the end of the second month of pregnancy the central coagulum has become nearly decolorized and presents the appearance of a fibrinous deposit." Julius Klob admits that a corpus luteum of gravidity may be found very small, whereas that of menstruation may attain a considerable size.

I have myself examined a number of ovaries of women who had delivered several children, and never found any other sign of proceeding pregnancy but the remnants of the structureless membrane, surrounded by myxomatous tissue, perhaps more extensive, and probably accompanied by a deeper retraction at the surface of the ovary than after menstruation or ovulation. On the contrary, I have examined a number of porpora lutea with all characteristic naked eye appearances of corpera lutea vera in women who have never been pregnant, and even in young girls. I have found them either to be gyroma or endothelioma changing to angioma or hæmatoma. The features of the latter formation were described in the above mentioned article pulished in the New York *Medical Journal.* I made the statement that both gyroma and endothelioma were the results of inflammation, and an outgrowth of the follicular membrane. This being folded and corrugated will lead to the peculiar convolutions of the formations under consideration. It has also been announced that neither of these formations gyroma and endothelioma are to be considered as tumors, or as malignant *per se. I have no doubt that a great many nodules considered as corpera lutea of pregnancy, are nothing but endotheliomata, all of which have taken origin from previous gyromata.* What authors have described as glistening fat globules within the wall of the corpus luteum, I have stated to be hæmatoblasts crowded within endothelia, subsequently leading to the formation of red blood corpuscles. It is possible that an already present gyroma may, in consequence of pregnancy, become an endothelioma. The coagulated fibrin so often seen in the central cavity of an endothelioma, may have found origin either from a recent hemorrhage caused by ovulation in its neighborhood with subsequent gravidity or may be altogether newly formed together with blood. Still all these features could be seen in the ovaries of women who have doubtless never been pregnant.

Future observation must clear up the question, whether or not every pregnancy is accompanied by the formation of a corpus luteum. There are many facts on record strictly contradictory to such a belief. I wish to allude to the presence of a so-called corpus luteum in one ovary and a tubal pregnancy on the opposite side. Different authors have tried to find a mechanism, by means of which the tube could bend to the ovary of the opposite side. Others have thought of a transmigration of the ovum from the ovary of one side to the tube of the other. For all such hypotheses there is lacking foundation in the anatomical construction. All difficulties would be overcome from the moment that my assertion that corpora lutea have nothing to do with ovulation or pregnancy is found to be correct.

In Germany, quite recently, a number of tumors of the ovaries have been described under the name of endothelioma, by Kolaczck, Marchand, Leopold, Olshausen, Ackermann and C. T. Eckardt. Since the formation described by myself under the name of endothelioma changing to angioma and hæmatoma, is not a tumor proper, but identical in its origin with what previously has been named corpora lutea, the tumors, of the named authors have nothing in common with these formations but the name. It is quite possible that an endothelioma of my description may grow out in a tumor of even considerable size, but I myself have not as yet met with such an occurrence. Endothelioma will become a tumor, a sac filled with blood, only after it has reached the stage of development of a hæmatoma. In this stage of development it not infrequently reaches the surface by thinning of the capula of the ovary. Quite recently H. J. Boldt has published a case[1] where such a hæmatoma had ruptured, causing hemorrhage into the peritoneal cavity with imminent danger to the patient's life. She was saved by the removal of the ovary with the ruptured hæmatoma.

SYMPTOMS, DIAGNOSIS AND TREATMENT OF CHRONIC ENDOMETRITIS.

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SYMPTOMS.

A PROMINENT symptom is pain, which has certain places of predilection that, according to decreasing frequency, may be arranged in the following order: the left iliac fossa, the right iliac fossa, or both; backache, pain under the left breast, in the epigastric region, headache, neuralgia on the anterior surface of the thigh (anterior crural nerve), neuralgia of the external surface of the same (external cutaneous nerve), pain in the coccygeal region or in the interior of the pelvis when sitting. Besides, the patient complains of "bearing down," a disagreeable sensation of heaviness extending from the interior of the pelvis to the external genitals. As a rule, all these abnormal sensations are increased by walking or other exercise. Coition is often painful.

Another common complaint is "cramps," a painful feeling of muscular contraction of the uterus caused by retention of blood or mucus above the internal os.

Sometimes, although the ophthalmologist finds no fault in her eyes, the patient suffers from pricking in them, weak eyesight, and photophobia, often combined with pain at the back of the head, where the visual centre is situated.

It is not rare that a feeling of discomfort necessitates frequent micturition, although the urine is normal, a condition designated as irritable bladder.

As a rule, the menstrual discharge is preceded and accompanied by more or less severe dysmenorrhœa.

Secondly, abnormalities in the loss of blood from the uterus are of frequent occurrence, and easily explained by the dilatation of the capillaries in the mucous membrane revealed by microscopical examination. These abnormalities may be in the shape of menorrhagia or metrorrhagia, or both, and often protracted menstruation, the menstrual flow extending over an unusual number of days, although, perhaps, the total loss of blood does not exceed the normal quantity. When loss of blood is a prominent feature, the condition has been described as hemorrhagic endometritis.

In very weak patients, endometritis is, on the other hand, occasionally accompanied by amenorrhœa.

A third symptom that brings the patient to seek relief is leucorrhœa, which is easily accounted for by the hyperplasia of the normal glands and constant formation of new ones that takes place in the mucous membrane when it is in a condition of chronic inflammation.

The fluid is serous, mucous, or purulent, and may have an admixture of a little blood. It may be colorless, white, yellow, greenish, red, or brown. The

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[1] Report of the Medical Congress in Berlin, 1890.

white color is due to the presence of epithelial cells, the yellow to pus, the red to fresh blood, and the brown to decomposed blood. It may be nearly as thin as water, or more or less thick, like cream or soft cheese.

The fluid secreted by the cervix is like the raw white of an egg, that from the interior of the body is more milky. Both are alkaline, and both may become purulent, which is especially the case in gonorrhœal and the atrophying endometritis of old women.

The microscope reveals an abundance of mucous corpuscles in the cervical discharge and columnar epithelial cells, sometimes ciliated, in that coming from the neck or from the body.

If the discharge of this albuminoid fluid is at all abundant, it is a drain on the system which has given rise to the popular belief that the white stuff coming out of the genitals is the spinal marrow that melts.

When leucorrhœa is a predominating symptom, the disease has been called catarrhal endometritis or uterine catarrh.

In some patients there is a very free discharge of a muco serous fluid, a condition called hydrorrhœa. At times the secretion may be retained above the internal os, probably on account of the swelling of the mucous membrane, or a spasmodic contraction of the surrounding muscular tissue. The uterus may then become quite distended, and the patient has considerable pain, until the obstacle gives way and the accumulated fluid rushes out in a gush, when the patient feels relieved until the same scene repeats itself.

Apart from pregnancy hydrorrhœa is a rare disease. The hydrorrhœa of pregnancy, on the contrary, is rather common. Watery fluid may be discharged any time during pregnancy, but it is most common during the last month of gestation, and often gives rise to the erroneous supposition that "the waters have broken."

A similar condition is sometimes found after childbirth—puerperal hydrorrhœa. It is then, in general, due to retention of a portion of the placenta, or of clots, but a polypus may produce like results.

The patient afflicted with endometritis loses her appetite and suffers often from nausea, dyspepsia and constipation. She becomes weak and pale, with black rings under her eyes. Some patients complain of a feeling of oppression in breathing. Some have palpitations.

The nervous system suffers much. Despondency and melancholia are of frequent occurrence, and I have seen cases of acute mania and epilepsy. The group of symptoms classed as hysteria is observed so rarely in these patients that it is doubtful if there is a causative relation between it and endometritis.

An inflamed endometrium does not seem to be a favorable ground for the implantation of the ovum. The abundant leucorrhœa helps, perhaps, also, to expel it. However this may be, so much is sure that patients suffering from endometritis are often sterile, or, if they conceive, they have a tendency to abortion. It is also claimed that placenta prævia may be caused by it, the ovum sinking down into the internal os before it becomes fastened to the endometrium.

By vaginal examination we find in most cases, at least in women who have borne children, the os patulous, velvety and granular, often studded with small, round, hard cysts (*ovula Nabothi*). In nulliparous women, on the other hand, the external os is often too narrow, and the secretion accumulates in the cervix, or the body of the uterus, or in both simultaneously.

The cervix is quite commonly enlarged, and either too soft, when cellular infiltration, the formation of glands and cysts, and dilatation of the blood-vessels predominate, or too hard, when hyperplasia of the connective tissue has caused atrophy or disappearance of the softer structures.

The uterus is tender on pressure. The introduction of the sound is often unusually painful and causes often some bleeding. By moving it along the interier surface, this is often felt rough or the seat of polypi.

DIAGNOSIS.

In lumbo-abdominal neuralgia, certain points of the uterus, especially on the level with the internal os, may be tender on pressure, but then all the other symptoms, especially hemorrhage and leucorrhœa, are absent.

A fibroid tumor causes often hemorrhage and leucorrhœa, but the presence of the tumor can be made out by bimanual palpation. If it is an intra-uterine fibrous polypus it can be felt with the sound.

The diagnosis from the early stage of cancer may be difficult. In cancer we find, however, such a friability of the tissue that parts can be scraped off with the nail or are spontaneously expelled from the interior of the womb, which is never the case in endometritis. On the other hand, this softness is surrounded by tissue that is much harder than is the merely inflamed tissue. Cancer is accompanied by a profuse discharge of a watery fluid or thin pus with a peculiar, pungent and offensive odor.

As to hemorrhage, when the patient is in the prime of life, has a subinvoluted uterus and suffers merely from menorrhagia, the probability is in favor of hyperplastic endometritis and against malignant disease. On the other hand, bleeding after the menopause is a very suspicious symptom.

Many lay much stress upon irregular bleeding in the inter-menstrual period, especially after coition, but I have often seen this in cases of lacerated cervix with ectropium.

Pain, as a rule, is absent in beginning cancer, but sometimes the patient has vague, shooting pains in the pelvis.

Cancerous tissue is well differentiated from the surroundings. It forms a glistening prominence not unlike currant jelly.

The effect of treatment will soon dispel all doubt.

The diagnosis is made sure by cutting out a piece of the suspicious tissue from the cervix, imbed it and prepare microscopical specimens of it. In the same way the malignant or benign nature of scrapings from the interior of the womb is ascertained. Mere "teasing" with two needles does not furnish conclusive evidence.

TREATMENT.

Prophylactic.—Chronic endometritis may be avoided by paying attention to the causes which are known to produce it. Everything that tends to hyperæmia of the pelvic organs may lay the foundation of the disease. In this category belongs sexual excitement brought on by reading of prurient novels, by looking at obscene pictures, by seeing representations on the stage that aim at the exposure of so much of the body as existing laws and public opinion will permit, by masturbation, sapphism, sodomy, and even normal coition if performed too violently.

The excretions should be evacuated with proper intervals. If the bowels do not move by themselves they should be made to do so once in twenty-four hours by enemas or aperients. No regard for so-

called propriety should prevent a woman from emptying her bladder at least three times a day and oftener if a desire to do so is felt.

She should be clad in harmony with the season and take care to protect her abdomen against gushes of wind, which find an easy access under her bell-shaped skirt. She should be particularly careful at the time of menstruation, and not dance or skate and sit down on the ice at a time when a process is going on in her body that is so easily turned into an abnormal direction.

It is unlikely that the mere frequency of sexual intercourse does a healthy woman any harm, but it is quite different when the natural relations are disturbed. The sin of Onan, (which was not masturbation,) the use of condoms, injections made in a hurry immediately after ejaculation, at a time when nature calls for rest, and often with a fluid of improper temperature, all cause a tension of the nervous system that in the course of time may lead to chronic endometritis, and should therefore be avoided; independently of all moral, religious or æsthetic considerations.

In childbirth all antiseptic precautions should be taken to avoid infection,[1] and the afterbirth should be carefully removed.

In abortion the uterus should be entirely emptied by removing not only fœtus and ovum, but the spongy decidua with the curette.

In a patient affected with gonorrhœa of the urethra and the vagina the extension of the disease to the uterus may, perhaps, be prevented by the use of a tampon soaked in a fluid such as this:

℞.—Acidi tannici,
Iodoformi.....āā ʒij.
Glycerinæ..... ʒv.

Curative.—Patients affected with chronic endometritis need a good deal of rest. Gymnastics, dancing, bicycling, machine sewing, and similar fatiguing movements make their condition worse. Moderate exercise in the open air is good, but the patient ought never to walk so much as to increase her pain. In order to avoid pelvic congestion she should abstain as much as possible from sexual intercourse. For the same reason the bowels should be kept open, if needed. An elastic abdominal belt surrounding the whole abdomen is often useful in stout women, by shifting over on the spinal column and the lower extremities some of the pressure exercised on the uterus by the intestines and other abdominal organs.

A warm bath twice a week has often a very soothing effect on the nerves, and withdraws probably some blood from the uterus by dilating the capillaries of the skin. Warm sitz-baths have a similar effect on a smaller scale. By the use of a bathing speculum this may still be enhanced. On the other hand, sea bathing, shower, sponge, sheet or towel baths, or a regular hydro-therapeutic treatment is excellent in combating catarrh, hemorrhage and debility. Certain spas, such as Franzensbad and Marienbad, in Austria, Ems and Kreuznach, in Germany, and Plombières, in France, enjoy a particular reputation in this and other diseases of women.

The disease being of long duration we should use anodynes very sparingly. Backache is temporarily relieved by rubbing the region four times a day with:

℞.—Chloroformi..... 1 part.
Ol. olivarum..... 3 parts.

[1] Full particulars in this respect are found in my "Practical Guide to Antiseptic Midwifery in Hospitals and Private Practice." Geo. S. Davis, Detroit, Mich., 1886.

The pain in the eye-balls accompanying asthenopia cedes rapidly under the use of a douche of cold water directed three times a day, for five minutes, against the closed eyes. Certain fountain syringes are accompanied by a nozzle in the shape of the rose of a watering pot, which answers a good purpose. With this treatment is combined, as a rule, scarification of the cervical portion and the administration of tonics.

For irritable bladder I use the follow mixture:

℞.—Tinct. belladonnæ..... ʒij.
Liqu. potassæ..... ʒj.
Aquæ.....ad ʒiv.

M.—S. One teaspoonful in a wineglassful of water three times a day, between meals.

If the uterus appears congested, great relief from pain may be obtained by scarification. From half an ounce to two ounces of blood may be taken twice a week.

Otherwise nourishing food, hygienic measures and tonics are the best means of mastering the sufferings of the patient.

Hemorrhage is combated with rest, cool diet, and abstinence from alcoholic drinks and coffee. The bowels should be kept open with a saline aperient, preferably the sodium sulphate, the old *sal mirabile Glauberi*.

Many drugs have a hemostatic effect. In acute hemorrhage, menstrual or intermenstrual, ergot is the best. In chronic cases, cotton root (cort. rad. gossypii raspatus) is, in my experience, superior to all other remedies; but in order to have its full effect, it should be used as a decoction, prepared fresh every morning by boiling three heaping teaspoonfuls, with a pint of water, for a quarter of an hour. One-third of the remaining fluid is taken cold three times a day. This decoction not only checks hemorrhage when present, but seems to have a tonic influence on the uterus and the general health. The patient may take it for months, only interrupting its use from two to four days in the beginning of menstruation.

Another uterine hemostatic that I sometimes have seen help when the two first-named had failed, is the mistletoe (ext. visci albi fld.; a teaspoonful t. i. d.).

If there is any excitement, bromides, by the mouth, and opium suppositories are indicated. In patients suffering from malaria, quinine and arsenic become hemostatics, and so does mercury in those affected with syphilis.

Other drugs that may be used with benefit are digitalis, cannabis indica, gallic acid, alum, viburnum prunifolium, hydrastis canadensis, terebinthina Chiensis, tinct. capsici, ext. ustilaginis maïdis, rad. caulophylli, and a decoction of nettles.

Chalybeates, on the contrary, should be carefully avoided during uterine hemorrhage, as they invariably increase the flow. Even in the interval between hemorrhages iron has to be used tentatively, as it sometimes increases the next flow, or brings it on earlier than expected.

Simultaneously with the internal use of drugs, it is good to use vaginal injections of plain hot water; and if they do not check the hemorrhage, to add liquor ferri chloridi (half a drachm to a pint). A bag with hot water applied to the lumbar region, or an ice-bag placed over the symphysis, is sometimes effective. If bleeding continues, an intra-uterine injection of hot water, with or without liquor ferri, may be administered. If all this is ineffectual, or the hemorrhage is alarming, the vagina or the uterus should be tamponed.

Between hemorrhages, the mucous membrane is treated with applications of undiluted liquor ferri

subsulphatis or chloridi. If in hyperplastic endometritis the endometrium is studded with prominences, curetting has a prompt effect. If the whole membrane is swollen, the intra-uterine chemical galvano-cauterization, according to Apostoli's method, with the positive electrode in the uterus, is excellent. The galvano-cautery has also been used for this purpose, but would seem to be an unnecessarily harsh treatment.

At the same time, the patient should take as much and as substantial food as possible, and drink some pure red wine.

In very exceptional cases of obstinate hemorrhage, the uterine artery has been tied on both sides; salpingo-oöphorectomy, and even hysterectomy, have been performed.

It must not be forgotten that a moderate loss of blood is a normal condition—a kind of safety-valve—for the female economy. We should, therefore, allow a reasonable amount of blood to flow before we check it. My habit is not to interfere for from two to four days, but a dangerous loss of blood should be stopped immediately, under all circumstances.

Amenorrhœa occurs sometimes for from one to four months after curetting, and should then not be interfered with, as it is a beneficent pause after the drain on the system for which the curetting was done.

In weak anemic persons, upon the whole, nothing should be done to induce menstruation; otherwise hot vaginal and rectal injections, warm hip baths, warm foot baths, with or without mustard, and long, warm general baths will sometimes bring back the courses. The mere introduction of the sound works as a stimulus and may have a similar effect. Electricity in all its forms is a powerful remedy, especially the bipolar intra-uterine faradization with the secondary current, and, best of all, galvanism with the negative pole in the uterus.

Beside iron, quinine, strychnine, and alos, which are the chief drugs to be used, the following have a more or less well-founded reputation as emmenagogues: manganese binoxide, permanganate of potassium, santonin, oleum sabinæ, oleum rutæ, oleum tanaceti, oleum hedeomæ, or a warm infusion of the herb, ergot, radix gossypii, tinctura cantharidis, tinct. hellebori nigri, and a similar power is attributed to many others. As their effect is very uncertain it is wise to combine several of them in one prescription, and to use them in connection with the other remedial agents recommended, *e. g.*

℞.—Strychninæ sulph..... gr. j.
Aloes Socotrinæ..... ℈j.
Quin. sulph..... ℥ij.
Ferri sulph. exsiccat..... ℈ij.
Ol. sabinæ..... ℥j.
Ext. gentian, co.....q. s.
M.—F. pill, No. lx.
S. Three pills three times a day.

In leucorrhœa the nerves should be strengthened and the skin hardened by the above mentioned ways of using cold water. If there is no free drainage from the uterus the cervical canal should be dilated. Ovula Nabothi should be pricked with a scarifier and painted with tincture of iodine. Exceptionally, the whole cervical portion may be one agglomeration of cysts, which do not yield to this treatment. Then they should gradually be destroyed with a needle-shaped Paquelin's thermo-cautery or galvano-cautery.

For erosions there is no better treatment than to bathe the vaginal portion in a tubuliform speculum, for a couple of minutes, with acidum pyrolignosum rectificatum, twice a week, but this substance has such a pungent odor that it is disagreeable to most people. A 10 per cent. solution of sulphate of copper may be used in a similar way, three times a week.

Applications may be made with carbolic, chromic, or nitric acid, followed by a solution of bicarbonate of sodium in order to neutralize the superfluous acid; or solutions of chloride of zinc (25 to 50 per cent.), or nitrate of silver, or the liquor ferri chloridi, or subsulphatis.

Between visits the patient should use astringent vaginal injections with borax, alum, or equal parts of alum and sulphate of copper dissolved in the water. Of alum or borax, a heaping teaspoonful is dissolved in a pint; of the mixture of alum and copper, only half a teaspoonful. If there is a spongy os I prefer liquor ferri chloridi, half a teaspoonful to a pint.

It may become necessary to remove granulations from the cervix or fungoid growths from the inside of the corpus and fundus, or to scrape the thickened endometrium with a curette, or to burn the cervical canal with the thermo-cautery, or by means of thermic, or chemical galvano-cauterization. The mucous membrane of the cervix may also be cut away.

I have obtained excellent results by applying the positive pole of a galvanic battery, in the shape of a gas coal ball wound with very little cotton squeezed nearly dry, through Cusco's speculum, to the eroded os. It is used for five minutes, with as strong a current as the patient can stand (about 40 milliamperes).

It leaves an eschar followed by suppuration. A few such applications, repeated once a week, produce a healthy mucous membrane in shorter time than any astringent.

If the cervix is lacerated, trachelorrhaphy should be performed.

In the interior of the uterine body, the above-named acids and astringents are also used. The substances I personally use are Churchill's tincture of iodine, chloride of zinc, and nitrate of silver, and I apply them all on absorbent cotton, wound around Budd's applicator. The iodine is the mildest and most generally useful; chloride of iron is best in the hemorrhagic, and chloride of zinc and nitrate of silver in the catarrhal form.

Beside the intra-uterine application I paint the vaginal roof with the tincture of iodine of the pharmacopœia, which probably works as a counter-irritant.

The patient herself introduces a pledget, with pure glycerine, into the vagina, morning and evening. For application against an eroded os, tannin glycerate (1 to 10) is preferable. Of late I have used ichthyol glycerine (5 per cent.) in all pelvic inflammations, and am so far well pleased with it.

If the patient cannot put the tampon in place, she should use Barnes' tampon expeller.

Some internal remedies, such as aletris, hydrastis, cimicifuga, inula, etc., seem to have the special virtue of checking leucorrhœa.

Oppression and palpitation are treated with bromides, especially mono-bromated camphor.

As might be expected, an occasional case of typhus develops in New York. When one considers how many persons came in contact with the disease and how many articles of clothing and goods ran a chance of taking up and conveying the infection, it is not surprising that a few such cases elude the vigilance of the health officers working among the ignorant and hostile foreign elements of New York.

CONTRIBUTION TO THE LITERATURE OF CANCER OF THE UTERUS.[1]

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THAT there should still be a divided opinion on the treatment of cancer of the uterus is, if we view the results obtained by various operators and the recurrence of the disease, not so surprising, as the deplorable fact that the diagnosis is often not made until it is too late to prolong or to save life by an operation.

For years it has been taught that every woman who had passed the menopause and then again began to lose blood at irregular intervals in greater or less quantity, or had a profuse leucorrhœa of putrescent odor, should be looked upon with suspicion, and malignant disease of some portion of the uterus considered and sought after. A number of times have I seen patients, however, who had not even been examined by their physicians, others again had been treated locally with the different acids, and lately I have seen two cases who had been treated with galvanism. Surely it is unpardonable to proceed thus, and I am sure that no excuse can be offered for such course. Theoretically it seems to me that every physician knows better, but why different resources are not resorted to it in practice, I am at a loss to explain, but that such is really the case, every one of experience in dealing with this class of cases must admit.

It seems that only by going over the same ground often and showing the neglected cases to those who misinterpreted them that we can hope to have every one pay proper attention and appreciate the gravity of the subject.

I do not side with those who go so far as to say that it is the duty of every practitioner of medicine to be sufficiently competent to recognize the disease in its early stages; to be able to do that each one would be required to have a special training consuming a considerable period of time; not only that, but it would be necessary to continue in practice in such field of work; a little reasoning would tell us that practically this is impossible.

If every physician had acquired so much skill, then there would be no use of a specialist in any department; we know that in order to become a competent specialist it is necessary to be first a good general practitioner. I make the bold assertion that one can never become a first-class specialist if he has not acquired as a basis a good, *practical* knowledge of general medicine. Is it not reasonable to suppose then that such man who has had a good practical training in general medicine and subsequently devotes his whole time to a special department in medicine or surgery is more competent, broadly speaking, to recognize pathological conditions and treat such conditions rationally than those of our colleagues who only see such cases occasionally as they present themselves in the throng of their varied practice? Besides, the specialist, no matter which the department is, keeps himself better informed on the literature of the respective department than it is possible for the general practitioner or a specialist of another department to do.

From the above it is obvious that I do not cast criticism upon the family physician that he does not make the diagnosis of cancer of the uterus in its early stages, but I do criticise that so very often patients are allowed to go on with their treacherous malady without other aid being called in counsel when a case is *suspicious*, and we have surely enough signs and symptoms to point that out.

If a patient refuses to be examined by her physician, it is his duty to not only call attention to the possible existence of malignant disease, but he must insist that he will not have any responsibility unless the respective patient is examined.

It is not necessary for a patient to have either pain, profuse or constant hemorrhages, cancer cachexia, profuse and offensive leucorrhœa, or to be in advanced years with cancer of the uterus; these symptoms do not present themselves until it is too late for a radical operation. Neither is it necessary that the pathologist should have made the anatomical diagnosis of cancer before a radical operation is done—to illustrate only by two cases of a whole series as have been under my observation:

Mrs. R—— B——g, aged sixty-five years, patient of Dr. L. Weiss, seen in consultation on account of occasional slight losses of blood and pelvic pains, neither was marked, and the patient was in excellent physical condition, but very wisely and to Dr. W.'s credit, on the return of the bleeding after curetting, he deemed further advice necessary.

The result of an examination made by me of scrapings obtained with a sharp curette showed the glands to be partly destroyed, in short, cancer of the body of the uterus was diagnosed. I advised immediate extirpation of the uterus, and inasmuch as the uterus, although slightly enlarged, was freely movable, the prognosis would have been very favorable.

This happened just prior to my departure for Europe on my vacation, four years ago. When I returned home I learned that the patient had consulted another colleague, eminent in the profession, who had curetted her two times, but the diagnosis by the gentleman who examined the scrapings was "endometritis," and although the hemorrhages returned shortly after the curetting, the doctor would not resort to or advise a radical operation, seemingly relying more upon the microscopical examination of the junior or senior assistant in the hospital where the patient was placed than upon clinical facts, leaving out of question altogether the result of my examination and that of Dr. C. Heitzmann, of which he was informed both by Dr. Weiss and myself.

At the request of Dr. Weiss I saw the patient again about six months later; she was then a wreck, in constant pain, the cachexia was of course now very marked, the bleeding, although not so frequent, was more profuse, the offensive odor of the leucorrhœa was present, unfortunately the whole pelvis was now infiltrated and she died about six weeks later.

Another case of a different type was that of Mrs. N., aged sixty-two years, who had had moderate hemorrhages for six months. She was treated by her attendant only with douches and iron pills. She had never been examined per vaginam, but had been told that the bleeding was due to change of life. Her general condition was fair, and she had as yet suffered no pain when seen by me. On digital examination the characteristic signs of cancer of the cervix presented themselves, involving already a small portion of the vaginal wall; the uterus was, however, still movable. On being informed that an operation was necessary to prolong life, she consulted another physician, who waited for a "nice clear day" to make a careful examination with a speculum, and

[1] Read at the New York Academy of Medicine, section of diseases of women, on April 28.

then declared the diagnosis made by me as nonsense, and commenced to treat her locally. It is said that he had a scraping examined and did not find it to be malignant. The woman has, however, since died of cancer of the uterus. Such is the work that I would severely criticise. I make another bold assertion—that cases advanced in age who have been bleeding irregularly from the uterus despite of repeated thorough curettings will eventually die of malignant disease; in all such cases, the organ, if possible, should be removed by a competent operator. So much from the clinical side. Not desiring to go over too many well recognized clinical facts, I desire to request a perusal of a short but very practical and excellent paper by my friend, Dr. Coe, On the Early Recognition of Cancer of the Cervix Uteri in the *Medical Record* for 1889, page 149.

I differ, however, very materially with him and every one advocating that measure of treatment, namely, that the cervix must be removed with scissors. I say that the uterus should be removed in toto, and if it is at all possible, especially in cancer of the body, the ovaries should also be removed, because in the latter localization of this disease these glands occasionally are also affected. Evidence has been given sufficiently often that independent cancerous nodules are sometimes present in the body of the uterus, when apparently the disease is limited to the cervix or even the portio only. A moderate involvement of the vagina is no contra indication to the operation.

In suspected cancer of the body of the uterus the interior should be explored with the finger in all doubtful cases, after previous dilation of the cervical canal, in order to get a good picture of its condition—irregular nodules, etc.

A curetting should always be done with the *sharp* curette to obtain sufficient tissue to make sections. That removal of the uterus is a successful operation in the hands of those who have had experience as operators has been sufficiently proved, the cases must only be properly selected, and in order to do this a previous examination of the patient should be made under an anæsthetic, a point to which attention has been called by many operators both here and abroad.

The most unfavorable cases as to recurrence are cancers of the cervix and portio occurring in women in the thirties and beginning of the forties.

A table of patients is furnished upon whom vaginal hysterectomy has been performed by me for cancer, from which it will be seen that the rate of mortality need not be so very great. The immediate results of my

Date of Operation.	Name.	Age.	Multipara?	Disease, where situated.	Ligature or clamps for broad ligaments.	Immediate result, recovery or death.	Remote Results.
1. April 3, 1887.....	C. R.	39	No	Cervix.	Ligature.	Recovery	No recurrence when examined by her physician in October, 1891.
2. May 2, 1887	M. C.	51	Yes	Cervix.	Ligature.	Recovery	No recurrence April 16, 1892.
3. June 15, 1887.....	Kupfer.	54	Yes	Cervix.	Ligature.	Death.	.....
4. July 3, 1887.....	Thaler.	56	Yes	Cervix.	Ligature.	Recovery	Recurrence in scar in December, 1888; has since died.
5. August 4, 1887...	Kurz.	42	Yes	Cervix.	igature.	Recovery	Recurrence in December, 1887, in the scar; has since died.
6. January 22, 1888,	S. B.	49	Yes	Cervix.	Ligature.	Recovery	No recurrence January 4 1892.
7. January 29, 1888,	Hartwig.	40	Yes	Portio.	Clamps.	Recovery	Recurrence; death from disease in January, 1891.
8. March 4 1888...	J. S.	37	Yes	Cervix.	Clamps.	Recovery	No recurrence April 16, 1892.
9. June 10, 1888.....	D. S.	45	Yes	Cervix.	Clamps.	Recovery	No recurrence, as per letter April 15, 1892.
10. Feb 5, 1889.....	M'Kerv'y	58	Yes	Cervix, Body & Ovaries.	Clamps.	Recovery	Death took place about one year later from recurrent disease.
11. Feb. 24, 1889.....	H. K.	35	No	Cervix.	Clamps.	Recovery	No recurrence Apr l 16, 1892.
12. June 18, 1889.....	P. G.	34	Yes	Body.	Clamps.	Recovery	No recurrence in April, 1892: it is seen about once in six to eight weeks in dispensary.
13. October 31 1889,	L. A. S.	60	Yes	Body.	Clamps.	Recovery	No recurrence when last seen, six months later it moved to Ohio, and has not been heard from since.
14. March 5, 1890...	Smith.	40	Yes	Cauliflr of Portio.	Ligature.	Recovery	Recurrence in February, 1891; death resulted in the autumn of 1891.
15. March 7, 1890.....	L. Y.	46	Yes	Cervix & Vagina.	Ligature.	Recovery	No recurrence March 7 1892; about one inch of vagina involved.
16. March 26, 1890..	M. Y.	39	Yes	Cervix.	Forceps.	Recovery	Recurrence March 17, 1892.
17. May 9, 1890.....	M. W.	44	Yes	Cervix.	Forceps.	Recovery	No recurrence January 5, 1892.
18. June 8, 1890.....	Berg.	43	Yes	Body.	Forceps.	Death.	Died of shock: it had been curetted three times before evidence of malignancy was determined, and was in a very low condition when operated.
19. Oct. 11, 1890.....	Braun.	37	No	Portio & Vagina.	F'rc'ps & Ligature.	Recovery	Recurrence found within three months in scar; it since died.
20. Nov. 1, 1890.....	M. H.	48	Yes	Cervix & Portio.	Forceps.	Recovery	No recurrence in March, 1892.
21. Nov. 15, 1890.....	E. G.	52	Yes	Cervix & Portio.	Forceps.	Recovery	No recurrence January 15, 1892.
22. Dec. 5, 1890.....	T. H.	69	Yes	Cervix & Body.	Forceps.	Recovery	No recurrence April 20, 1892.
23. Dec. 28, 1890....	Schmidt.	41	Yes	Portio & Body.	Forceps.	Recovery	There was present an independent cancerous nodule in the body of the uterus; recurrence in scar April 18, 1892.
24. March 14, 1891..	A. B.	48	Yes	Cervix.	Forceps.	Recovery	No recurrence March 11, 1892.
25. March 16, 1891 .	F. Z.	47	Yes	Cervix.	Forceps.	Recovery	No recurrence in March, 1892 (seen in clinic).
26. June 3, 1891.....	E. .	54	Yes	Cervix.	Forceps.	Recovery	No recurrence April 9, 1892.
27. June 5, 1891....	H. N.	41	Yes	Cervix.	Ligature.	Recovery	No recurrence April 14, 1892.
28. June 16, 1891.....	B. E.	30	Yes	Portio.	Ligature.	Recovery	No recurrence March 15, 1892.
29. July 5, 1891.....	D. W.	73	Yes	Cervix.	Forceps.	Recovery	Died of pneumonia about three months later.
30. July 13, 1891.....	Mrs. W.	?	?	Body.	Clamps.	Recovery	The records of age, children, etc., were misplaced in the hospital, and cannot be found. Mrs W. had no recurrence in October, 1891, but was not seen or heard of since; the letters of inquiry have not been answered. The other patient has not been seen or heard of since she left the hospital.
31. July 20, 1891.....	Mrs. G.	?	?	Portio.	Clamps.	Recovery	
32. Dec. 17, 1891.....	Duncan.	61	Yes	Cervix & Vagina.	Clamps& Ligature.	Death.	From shock.
33. Jan. 3, 1892,.....	M. R.	50	Yes	Body.	Clamps	Recovery	Too early to report on remote results.
34. Jan. 10, 1892.....	K. D.	57	Yes	Body.	Ligature.	Recovery	
35. Feb. 4, 1892.....	C. S.	51	Yes	Body.	Ligature.	Recovery	
36. March 24, 1892..	D. H.	40	Yes	Body.	Clamps& Ligature.	Recovery	

own vaginal extirpations for cancer in my 36 cases is 8.3+ per cent. which I am sure will be reduced in the future by my increased experience in the technique, and were I to count in the vaginal hysteretomies for other purposes than cancer, as other operators sometimes do, the rate of mortality would already be diminished. The same holds good for recurrences, the earlier we can get a case for operation the less likely will we get a recurrence of the disease, which in cancers of the cervix usually takes place in the scar. I refrain from describing the technique, etc., leaving that for a future occasion. I only add that I do not find any difference in the results whether clamps or ligatures are used, and I feel that it depends very much on the case which method is to be used to secure the broad ligaments. If ligatures are used they should be catgut and not silk, the latter for this purpose should be relegated to the surgery of the past.

MODERN GYNECOLOGY—A CRITICAL STUDY.

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THE special branch of surgery, namely, gynecology, which is justly claimed to have made wonderful progress during the last few years, and which has almost entirely freed the suffering womankind from the dreadful prospects of a lingering death, is still at fault in some essential particulars, which under the light of our present knowledge and experience should be corrected.

Notwithstanding the fact that every medical journal offers to its readers valuable articles by the ablest and most renowned gynecologists of this country; notwithstanding the fact that neither time nor space is spared to describe the *modus operandi* of each case in detail; in every case the logic is defective and the conclusions biased. Because each operator has a certain fixed plan in hand to which he makes everything subservient. In other words, each has his own hobby.

The writer has witnessed quite a number of laparotomies performed by the best specialists of this State; has assisted in some, and has had the privilege of carrying out the after-treatment in others; consequently, as the result of close observation and study, he makes the above statement.

In order to make this review a useful one, we will take into consideration the seemingly inessential as well as the essential question.

Here we will take, for granted, that the operator, after having made a thorough examination of the case, considers the proposed operation a necessary one, and that he is thoroughly competent to take charge of the case.

1. Shaving the pubes, is considered by most laparotomists, the first step in preparing the area of operation; but there are others who regard it a superfluous and unnecessary procedure in the preliminaries of an operation. However, the object of shaving is not merely to free the parts from the hair, which by occupying the very field of operation may inconvenience the operator, but to remove all excreta from the skin that may have found shelter in the hairy part, and with them also to remove all kinds of microorganisms which thrive on this medium. Surely no one will have his patient subjected to unnecessary risks; therefore, no one should neglect this part of the preparation which is in perfect harmony with the rules of thorough asepsis.

2. After the parts have been cleansed with the usual methods, it is customary to envelope them with gauze saturated with 1–2,000, or even 1–1,000 bichloride solution, to be left *in situ* 12–16 hours. This is done, of course, to keep the parts aseptic; however, there are very few persons whose skin can be left in contact with such strong solutions of bichloride of mercury for 12–16 hours with impunity. The numerous blebs which are noticed after the removal of such dressings are not caused by the warmth and moisture, as some are inclined to think, but are the effect of strong solutions of bichloride of mercury. These blebs rupture and carry off with them the external layer of the skin, leaving a more or less painful, denuded surface. Besides this, the constitutional effect of mercury by absorption must not be disregarded. Parts which have been thoroughly cleansed and asepticised can undoubtedly be kept such, with 1–4,000 or 1–5,000 bichloride solution, consequently there is no need of stronger solutions.

3. Having prepared the area of operation we proceed to prepare the alimentary canal also. Various agents have been employed to accomplish this purpose; however, of all drugs the one which acts most happily and satisfactorily is sulphate of magnesia, either in small repeated doses, such as ℥j every hour until the bowels move, or, one large dose, say, ℥viij–℥xij to be given at once, 12–16 hours before the time of the proposed operation. About ten hours later an enema of warm water must be given to remove all fæcal matter from the large intestines. The advantage of this mode of treatment over others is, that it will relieve the intestines from their undue congestion which may exist as a result of habitual constipation, or pressure from tumors or abdominal effusion, and should complications arise during the operation, the chances of consequent acute peritonitis are reduced to a minimum. In case a patient objects to sulphate of magnesia on account of its taste, by the addition of some sugar and lemon juice it can be rendered quite palatable.

4. The custom of allowing the patient a glass of milk, beef tea, or a few crackers shortly before an anæsthetic is administer, is an objectionable one; because all those who have partaken of even such a small amount of food, have almost invariably vomited, or made attempts at vomiting, sometime during the course of the operation. The writer has seen two cases in which large pieces of caseated milk lodged in the pharynx and almost suffocated the patient. Those who have seen such accidents happen in the course of an operation, are familiar with the consequent annoyance and anxiety, and will appreciate the value of the following suggestion, that no person, who is to be anæsthetized to undergo an operation, should be allowed to partake of any food in any shape, later than about ten hours before the operation. It is true that, under ordinary circumstances, a glass of milk will leave the stomach in a comparatively short time, but, when the mind is preoccupied with the grave apprehensions and the anxiety of the coming operation, the stomach refuses to perform its function, and all that is in it remains undigested.

Allow me to digress a moment to offer a few words in regard to an empiricism which is an almost everyday occurrence. When a patient's heart, under an anæsthetic, becomes weak and flickering, pulse imperceptible at the wrist, and the respiration shallow, in other words, when there is danger of the patient's "dying on the table," it is astonishing to notice how many surgeons will resort to digitalis hypodermically as a speedy restorative. The absurdity of this prac-

tice will be evident, when we take into consideration the fact established by eminent physiologists and therapeutists, that the action of digitalis on the heart does not commence until three or four hours after its administration. At present we possess heart tonics, which, on account of their ready absorbability, are more speedy in their action, and better adopted in cases of emergency than digitalis.

5. Whether, after a laparotomy, the abdominal cavity should be irrigated or not, is a question of some importance. Of late it seems to have become the fashion to omit this step of the operation. Its opponents have not offered us any other reason than "that it is not absolutely necessary to irrigate the abdominal cavity, and what is not necessary can be dispensed with." However, this is arguing on wrong premises, because, no matter how careful an operator may be, some blood will escape into the abdominal cavity, which, if left undisturbed, will organize and form new adhesions, either between viscera or viscera and the abdominal walls. Surely, this is not a desirable result to obtain, because, not only will these adhesions interfere with the functions of some viscus, but, in time, will cause much pain and distress. By irrigating, we would wash out all blood clots from the abdominal cavity, which is equivalent to removing all possibility of adhesions, at least from this source. Another beneficial effect of this practice is to greatly alleviate, if not entirely prevent, the insatiate thirst that naturally follows such operations. These, and the fact, that no possible danger can be apprehended from its use, we should be induced to regard abdominal irrigation as an absolute necessity.

6. The practice of draining the abdominal cavity was a universal one. The simple fact of having invaded the peritoneal cavity was considered a sufficient reason to necessitate the service of a drainage tube. However, of late, a few more scientific and discriminating laparotomists having severely criticized and condemned this irrational custom, greatly revolutionized it. Nay! Unfortunately, they overreached their aim; for, in their zeal of accepting this reformation, some others forgot that there might be some cases in which the life of the patient would depend upon that much abused drainage tube. And thus with the tide they have gone to the other extreme. Only a short time ago there appeared in print the sentiments of an eminent gynecologist on this subject, which read as follows: "When in doubt do not drain." Why not make this read: "When in doubt, do drain?" Is it not our duty to give a patient the benefit of the doubt? Is it not safer in such a case to err on the side of commission than of omission?

7. It is customary with some laparotomists to secure the dressing of the external wound with strips of adhesive plaster 3–4 inches in width and enough of them to cover the entire area from the trochanter to the lower border of the ribs on each side. Certainly the heat and the moisture thus retained by the plaster will soften the epidermis to such an extent that with the plaster the epidermis also will be removed. In redressing the wound, it will be necessary to apply the adhesive strips to this denuded surface which surely does not promise a comfortable condition to the patient. However, we can safely secure our first dressing with 3–4 1½-inch wide adhesive strips, and upon their removal, should the epidermis be found in any way injured, the interspaces of the first strips will offer sufficient healthy surface for the application of the second strips, without subsequently causing pain and discomfort to the patient.

8. After having the patient put to bed, when she is recovering from the effects of the anæsthetic, should we administer her an anodyne? This is a very important question, upon whose answer often depends whether a physician will gain the eternal friendship of his patient or the contrary. There is our "no anodyne" laparotomist who can be deaf to the pitiful and heartrending cries of his patient; who can watch every muscle of her countenance expressing extreme suffering and nervousness, with the satisfaction that he has not been guilty of transgressing against the whims of fashion. And what is the result? Simply from the idea of having been refused, the patient will revolt against her physician—at least temporarily—she will become half hysterical and half spiteful, and he will be obliged to call upon attendants to keep her in bed or to restrain her. And woe to the physician whose patient will not co-operate with him!

No possible bad effect can be feared from the use of suitable anodynes in these cases. Moreover, not more than two or three doses will be required during the first twenty-four hours, and none after that. If you will not use opium in any form in these cases, use hyoscine or duboisin, which act most happily and speedily, without affecting the secretions or excretions. Give a moderate dose of either of these salts to your patient, and after several hours most refreshing sleep she will avow eternal friendship to you.

9. After the operation, having regained consciousness, how soon should a patient be allowed to take nourishment? This is another important question much abused. There are laparotomists who will say, give her absolutely nothing for the first twenty-four hours. There are others who are liberal enough to allow her a few chips of ice to dissolve in her mouth, but nothing more. There is no reason why such a starvation plan should be carried out. It is true there have been cases in which every attempt to take nourishment has excited vomiting and almost exhausted the patient, but such cases are exceptions. Even in these cases we do not let our patients starve, but we seek to allay the irritability of the stomach as soon as possible. If too much ether has not been used, and all the foregoing suggestions have been observed, almost always as soon as the patient awakens from her refreshing sleep, she will crave for some nourishment, and if judiciously given, the stomach will almost invariably retain it. Therefore, as soon as a patient expresses a desire for food, give her one teaspoonful of milk and lime-water, and repeat every ten, twenty or thirty minutes, according to the case, increasing rapidly both in quantity and in intervals, until she is able to take f℥ij or f℥iij every two or three hours. In a day or two the lime-water may be dispensed with, and instead, small quantities of bovinine or egg albumin may be added to the milk. In a few days we can safely allow a poached egg, some milk-toast, or a few crackers, and by the beginning of the second week, a good, light nourishing diet will be acceptable as well as needed.

10. The last and the most important question that presents to us is: How long must dorsal decubitus be enforced upon our patient? The almost unanimous answer to this question will be, keep her on her back for 15–20 days. Keep her on her back even when every bone in her body aches and pains. Keep her on her back even when every muscle engaged in this forced position is thoroughly exhausted and devitalized. Keep her on her back even when on account of constant pressure here and there red patches do appear. Keep her still on her back when her nervous system is so unstrung that the temperature

chart assumes the character of a step-ladder. No! It is impossible to force part of our organism to adopt a certain position for a certain length of time without exhausting it, nor is it possible to exhaust the part without affecting the entirety. The nervous system, the muscular power, and the very human nature will revolt against such a demand. Is it a wonder that under such treatment our patients display a haggard and discontented appearance, that their secretions and excretions are altered and their convalescence is retarded!

Again, by keeping our patient constantly on her back do we not create a most favorable condition for the formation of new adhesions? Undoubtedly we do. For instance, after oöphorectomy the pedicle is returned to the abdominal cavity, and by this unchanged position is allowed to remain in contact with the adjacent tissues undisturbed. Under these conditions, how can it help otherwise than to form adhesions to these parts? What is the result? As the adhesions become older and stronger the organ becomes fixed, and when this woman assumes certain postures which are apt to put these adhesions on a stretch she experiences some pain, at first slight and temporary, but later on severe and permanent. It is for this reason that women who have been operated upon for several pelvic troubles with temporary relief, after the lapse of a few months or years, complain of as much pain and discomfort as they did before the operation. How many of these operations, although successful in their purpose, have been pronounced unsuccessful simply on account of the return of the former distress! Have not some laparotomies been performed a second time, in order to correct the objectionable results of a former operation? Yes! and most of them on account of adhesions formed subsequent to former operations. How deplorable! that the bright minds of our laparotomists should be possessed by such an unreasonable and barbaric idea as to force a patient to assume a continuous dorsal decubitus for one, two or three weeks!

About twenty-four hours after the operation, or as soon as a patient expresses a desire to change her position, she should be allowed to assume the position which is most comfortable to her. It would not be advisable to allow a patient to toss herself about indiscriminately, but let the nurse assist her in changing her position, and support her with pillows or blankets. As soon as the patient has been assisted to turn from one side to the other, the side just relieved may be massaged with or without a simple stimulating liniment, which will invigorate the tissues and make the patient feel stronger. Through this changing of position, the almost inevitable pelvic adhesion will become a mere possibility.

Upon these suggestions depend the safety, the comfort, and the rapid and perfect recovery of our patients.

ABSCESS OF FRONTAL SINUS.

By EMORY LANPHEAR, M.D., Ph.D.,
Professor of Orthopædic Surgery in the University Medical College, Kansas City, Mo.

SIMPLE, uncomplicated cases of abscess of the frontal sinus must be rare enough to warrant my reporting a case. Zuckerkandl (Anatomie der Nasenhæle) states that he has never met with a single instance, and Bosworth (Disease of the Nose) says: "While simple catarrhal inflammation of the mucous membrane of the frontal sinuses occurs with a cold in the head very frequently, suppurative inflammation, on the other hand, is one of the rarest occurrence." Yet one should remember that such things do occur and look for evidence whenever an abscess case of frontal headache persists.

The symptoms are sometimes very pronounced, but frequently, as in my case, there is nothing more than persistent headache. Fowler (Reference Handbook) describes them thus: "The inflammatory process may result in the formation of pus in the cavity. This will be denoted by the occurrence of rigors, excessive headaches, swelling, an erysipelatous blush, and some local œdema. The pain becomes of a throbbing character. More or less fever will generally accompany the onset of these symptoms." This is a typical case; we seldom meet with typical diseases; and in this condition very rarely. In the majority of cases headache will be the chief source of complaint; this headache is frontal, is usually continuous, though sometimes intermittent, and so suggesting malaria, and may be accompanied by nausea and vomiting. When the sinus becomes greatly distended with pus the roof of the orbit will, in some instances, be depressed so as to displace the eye-ball and cause diplopia. In others the posterior wall may be pushed backward; "it will be indicated by symptoms referable to the brain, such as dullness or apathy, with increased headache or sleepiness. The brain symptoms, however, are very apt to be obscure, as is usually the case when pressure occurs on the anterior lobes. If the disease goes on so far as to produce erasion of the posterior wall, with escape of pus into the brain cavity, the ordinary symptoms of meningitis supervene" (Bosworth). In the diagnosis other causes of headache must be excluded, as must also gonorrhœal inflammation, maggots, syphilis, etc. If pus be discharging through the nose the recognition is easy, as it is of a bright yellow color, and flows over the middle turbinated bone near its anterior extremity; but in cases like the following one is justified in trephining, even with no other symptom than intense, persistent, frontal pain.

CASE.—Mrs. B. D.; seen December 12, 1891, in consultation with Dr. E. J. Dennis; aged twenty six; faced storm of rain and wind for some hours six weeks ago; result, a "cold in the head." This was followed by frontal headache, which has persisted in spite of every anti-neuralgic remedy; pain worse every other day; much less at night. Advised large doses of quinine and opium, with hyoscyamus, every four hours; also nitric acid thrice daily, because of excess of urates.

December 16. No better; pain almost unbearable; so advised:

℞.—Aconitinæ ..... gr. 1-20.
Codeinæ sulphat..... gr. xij.
Quininæ hydrobromat.
Zinci oxidi..... .....āā gr. xxiv.
Misce et ft. capsulas No xii.
Sig. One every four hours, alternating with 5 grains of phenacetine.

Examination of nose gives negative results; that of retina nothing but slight congestion; no cause of pain being discoverable, unless there be abscess of frontal sinus or brain tumor; possibly the latter, as patient is beginning to manifest signs of pressure on brain.

December 20. At 1 P.M., Dr. Dennis assisting, Dr. John Punton giving chloroform, I made an incision along margin of eyebrow to base of nose, dissecting back sufficiently to allow use of gouge. At a point one-fourth inch above and internal to inner angle of orbit, I opened the frontal sinus. As soon as chisel penetrated the skull, pus in considerable

quantities poured out; opening was extended across to right side; about ʒiss. of pus escaped. Expolration with probe failed to show neurosis of bone. Sinuses were thoroughly washed out with weak bichloride solution, and then with Marchand's peroxide of hydrogen. A drainage tube was inserted, the wound closed, except at point of drainage; iodoform dusted freely on, and bichloride gauze and bandage over all.

The pain ceased immediately; the sinuses were washed out every second day with bichloride solution, followed by peroxide of hydrogen. Recovery was very rapid. On January 10 a probe was passed through into nose, and the wound in face closed by a plastic operation. Only a trace of a scar remains.

Some may question the propriety of opening the skull for so small a thing as headache. But if no cause can be discovered, if the pain is intense and localized, and if it has resisted all indications, I believe one is justified in operating at seat of pain. In the case just reported my object was exploratory, and had no cause been found in the frontal sinus, I intended to go on into the brain in pursuit of the cause of pain and symptoms of brain pressure. Exploratory operations about the head will soon be regarded as just as proper as is exploratory laparotomy.

TREATMENT OF PNEUMONIA BY INJECTIONS OF TURPENTINE.—M. Dieulafoy said he had tried turpentine injections, as recommended by Professor Lepine, of Lyons, in a desperate case of pneumonia, with success. The patient, a woman, entered the hospital with double pneumonia; pulse, 150; respiration, 40; expectoration coffee-colored, and general condition almost hopeless. Seeing that there was little to be done, he determined to give a chance to the turpentine, and for that purpose injected subcutaneously a full Pravaz syringe into each of the upper and lower extremities. The injection was very painful, and soon provoked a phlegmonous abscess. Strange to say, from that moment the patient got better. The pus from the abscesses contained no microbe. M. Dieulafoy did not pretend to conclude from this one case the absolute efficacy of the treatment, but he would recommend that his colleagues should give it a trial.

CROCODILES IN BOMBAY TANKS.—The Health Officer of Bombay, in his report for the third quarter of 1891, tries to remove the erroneous impression that is likely to arise from a discussion of the question of the existence of crocodiles in the Vehar Lake. It has been decided by the corporation to adopt means to destroy them and to pay for their destruction. It is to be hoped, he says, that no step may be adopted to destroy them in toto. The total destruction of crocodiles would mean the destruction of the present purity of our water-supply. I say so emphatically, and for this reason: It must be remembered that crocodiles, as a race, are the natural scavengers of the water reservoirs they inhabit. They destroy living, dead and decomposing animal and vegetable matter, and thus remove from water the obnoxious substances which must of necessity exist in stagnant waters, however large, and which no human agency of any kind or potency can ever remove, which no amount of labor can get at, and which no amount of money can destroy. It is comparatively easy to get a few crocodile heads or tails at so much a piece; but the warning word of science must go forth to put the authorities on their guard that to destroy the whole band of crocodiles now existing in our water reservoirs would be to purchase the future impurity of our water-supply.

—*Indian Medical Gazette.*

AN UNEXPECTED RESULT OF BUILDING UP A VENEREAL PRACTICE AMONG MEN.—In discussing Dr. Bedford Brown's paper at the December meeting of the Southern Surgical and Gynecological Association, Dr. Price (*Atlanta Med. and Surg. Jour.*, March, 1892,) said:

While a resident physician in the old Philadelphia Dispensary, it was then the rule not to treat venereal diseases in the institution, but I asked, as a special favor of the Secretary, that I be permitted to treat all venereal diseases after hours, as I was anxious to have a little experience just then in that direction. Consent was given, and I soon built up a huge clinic for the treatment of venereal diseases. I call attention to this to verify my position in gynecology. I soon had a clinic that took me an hour and a half or two hours to manage. I had a large number of cases of gonorrhœa, chancroid, bubo, phimosis, prostatic trouble, vesical and renal troubles. I took my meals, my dinner and sometimes my breakfast, with my brother. I had a room in the dispensary. My rule was to go to a restaurant near-by to get my lunch, and sometimes my breakfast if I had slept late. I soon discovered that it was impossible to dine at a single restaurant without being waited on by someone whom I was treating for bubo or gonorrhœa. I had to give up going to restaurants to take my meals. Some of these patients would salute me: "Hello, Doc, what will you have?" I had to go back to my brother's and take my meals with him. I call your attention to this matter to emphasize the fact that I have since operated upon the wives of those men for huge pus-tubes, ovarian abscesses, not by the dozen, but by the hundreds. I am speaking to prominent practitioners, men of large experience and good judgment. I am speaking from the standpoint of a specialist. For the last six years I have treated more cases of pelvic diseases than any one else in Philadelphia.

MENSTRUATION AMONG THE INSANE.—The general conclusions that I have reached from my whole work are:

1. That there is no entirely regular menstrual history if a number of years be taken into account, and that periods falling in from between three and five weeks are to be considered normal.

2. That normal menstruation is an expression of the general condition, and that its suppression is often only an indication of the needs of the system, and so is a conservative act of nature.

3. In the chronic insane the menopause makes no radical change in the form of disease.

4. In acute cases menstruation returns with regained general health, and is an indication that the system can again sustain the loss of force. It is always to be regretted when there is not at the same time increased mental vigor.

5. Tonics and general measures are as a rule preferable to direct or local treatment, though sometimes both are valuable.

6. The underlying conditions which cause irregularities of menstruation are oftener the cause of mental disease than those deviations *per se*.—H. W. Bissell, *N. W. Lancet.*

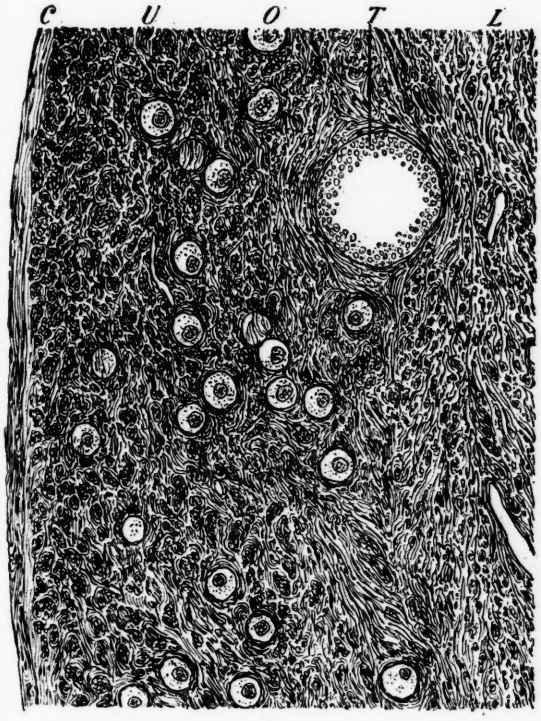
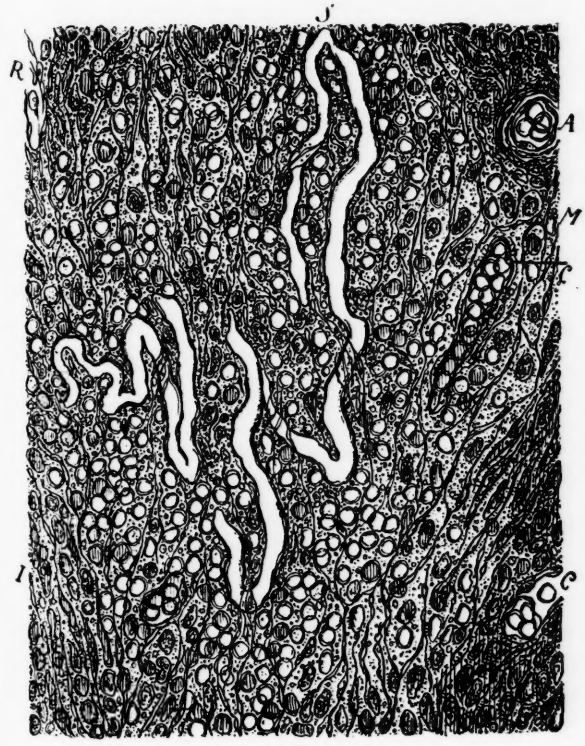


FIG. 1.

FIG. 2.



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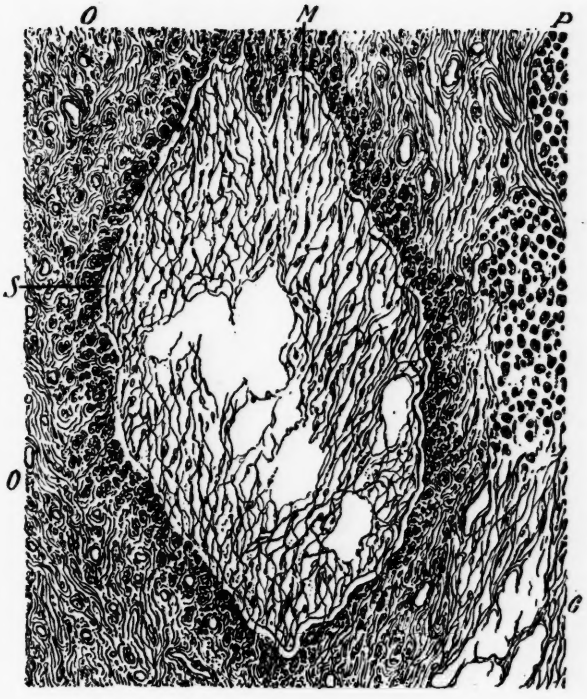

FIG. 4.

CHANGES IN THE OVARY AS A RESULT OF MENSTRUATION AND GRAVIDITY.

BY MARY A. DIXON-JONES.

(From studies made in the Laboratory of Dr. C. Heitzmann.)

FIG. 1.—CORTEX OF OVARY, × 100, VERTICLE SECTION. *C*, Connective tissue capsule, epithelium stripped off. *U*, Outer portion of cortex, with bundles of smooth muscles densely interlacing. *L*, Inner portion of cortex. *O*, Ova in stage of indifference. *T*, Beginning formation of follicle.

FIG. 2.—CORTEX OF NORMAL OVARY, × 500. *L*, Longitudinal bundle. *TT*, Transverse bundles. *S*, Oblique bundles of smooth muscle fibers. *O*, Ovum, in the state of indifference. *A*, Artery, transverse section.

FIG. 3. BEGINNING FORMATION OF MYXOMATUS TISSUE AROUND THE STRUCTURAL MEMBRANE OF A MENSTRUAL FOLLICLE, × 500. *S*. Convoluted structureless membrane. *A*, Arteriole, in transverse section. *R*, Ruptured capillary blood-vessel. *C*, Capillary blood-vessel. *I*, Inflamed tissue, probably smooth muscle fibers. *M*, Myxomatus tissue, crowded with red blood cells.

FIG. 4.—RESIDUE OF A MENSTRUAL FOLLICLE FILLED WITH MYXOMATOUS TISSUE, × 100. *S*, Structureless membrane, the remnant of a burst follicle. *M*, Myxomatous tissues filling the follicular space, partly torn. *OO* Cortex of ovary, holding numerous colloid corpuscles. *G*, Gyroma, bordered by myxomatous tissue. *P*, Pigmented gyroma.

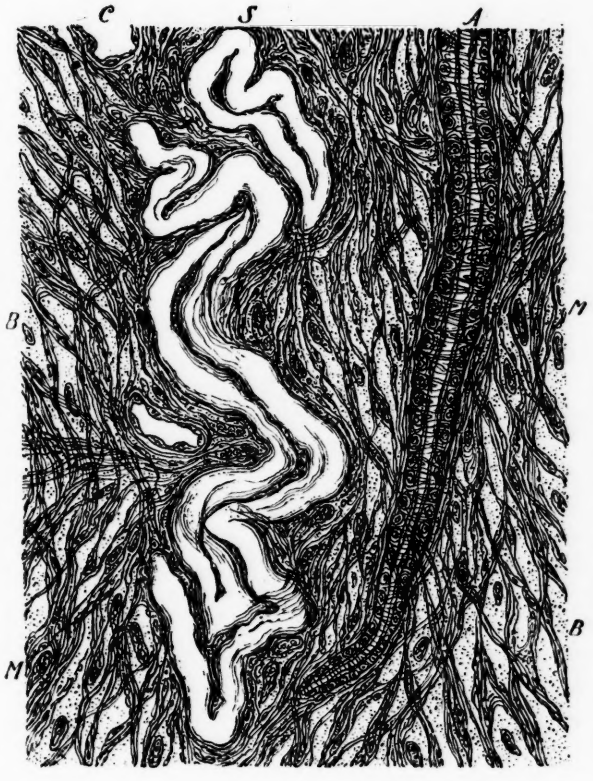

FIG. 5.

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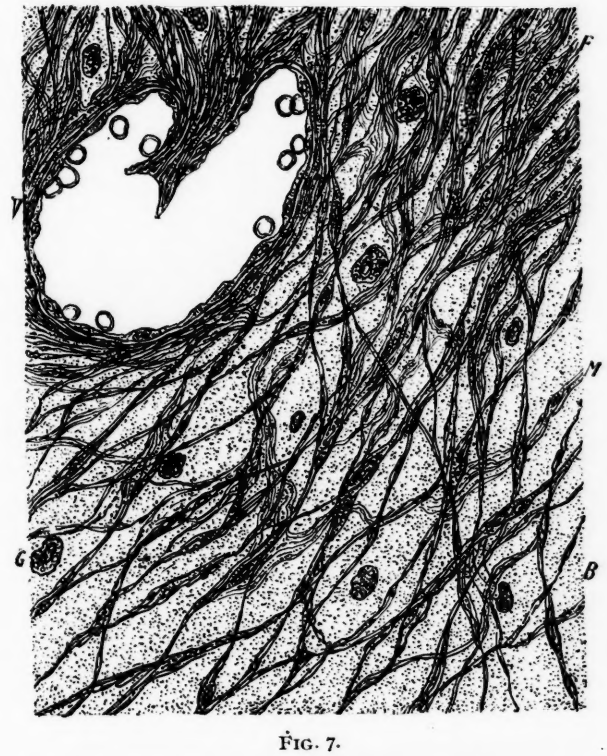

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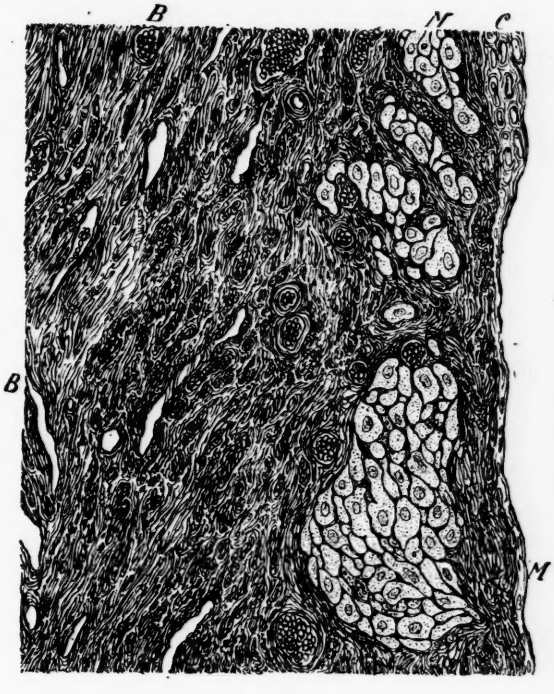


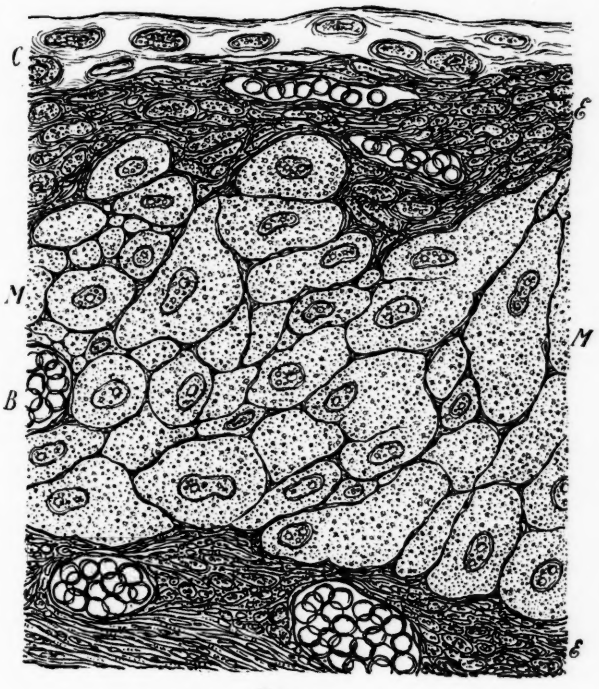
FIG. 8.

FIG. 5.—STRUCTURELESS CONVOLUTED MEMBRANE, THE REMNANT OF A MENSTRUAL FOLLICLE. × 500. *S*, Convoluted membrane, of high refraction. *M M*, Myxo fibrous tissue. *B B*, Scanty basis-substance in the meshes. *A*, Arteriole. *C*, Capillary blood-vessel.

FIG. 7.—MYXOMATOUS PORTION OF NORMAL OVARY NEAR THE BOUNDARY BETWEEN CORTEX AND MEDULLA, × 500. *F*, Myxo-fibrous tissue. *B*, Myxomatous basis substance. *G*, Coarsely granular, partly pigmented bodies in the basis-substance. *V*, Convoluted vein, holding a few red blood corpuscles.

FIG. 6.—CORTEX OF OVARY OF A WOMAN SEVENTY YEARS OLD, × 500. *S*, Convoluted structureless membrane, imbedded in fibrous connective tissue. *O*, Ovum; yolk shriveled. *A*, Artery, in transverse section. *B*, Capillary blood-vessel in longitudinal section. *C C*, Colloid corpuscles.

FIG. 8.—CORTEX OF OVARY WITH PATCHES OF MYXOMATOUS TISSUE, × 100. *C*, Capsule of Ovary, transformed into a tissue resembling fibrous cartilage. *M M*, Light patches of myxomatous tissue. *B B*, Blood-vessels (arteries and veins) engorged with blood.



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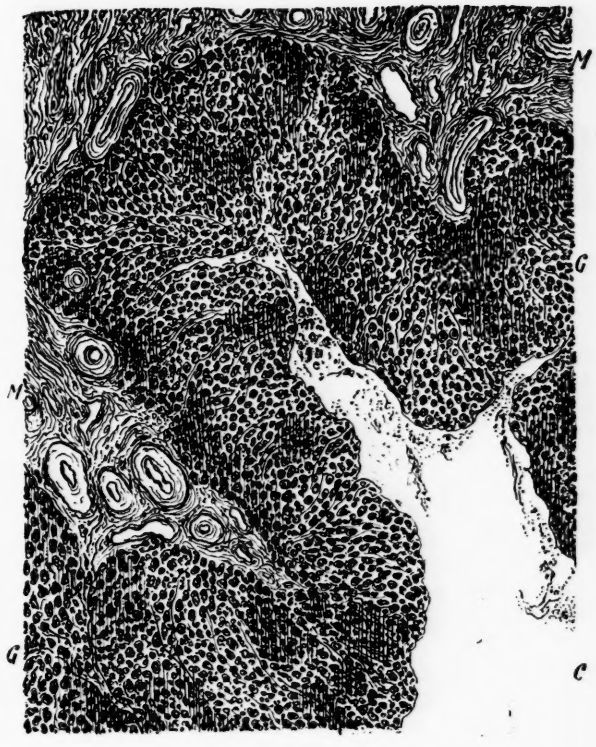

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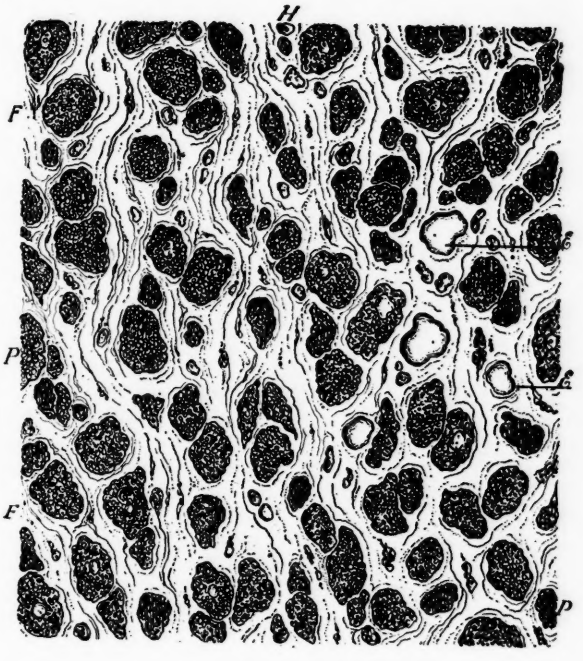

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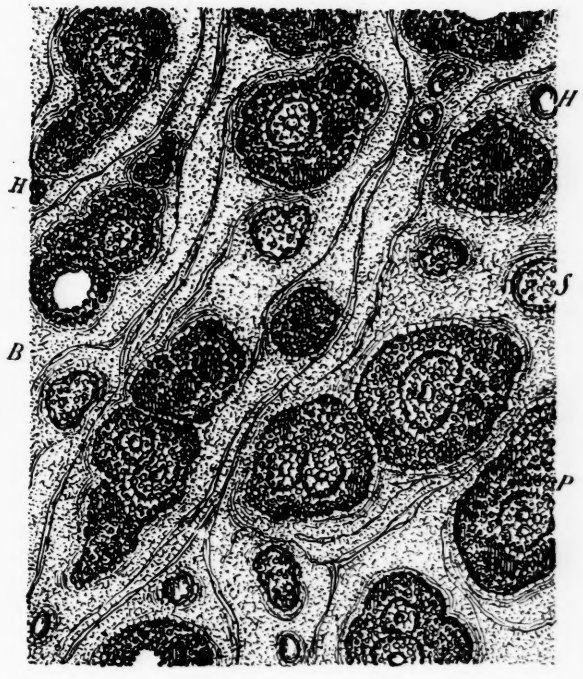


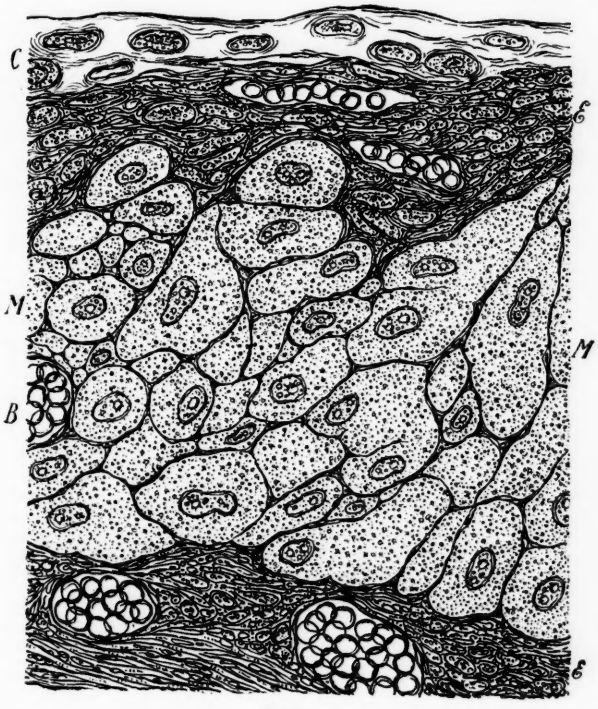
FIG. 12.

FIG. 9.—MYXOMATOUS TISSUE IN CORTEX OF OVARY, × 500. *C*, Capsule of ovary transformed into a tissue resembling fibrous cartilage. *M M*, Nucleated protoplasmic masses pierced by a myxomatous reticulum. *E E*, Embryonal or medullary tissue. *B*, Vein engorged with blood.

FIG. 11.—PIGMENTED CORPUSCLES IN A MENSTRUAL BODY, × 500. *P P*, Large protoplasmic bodies with brown granules. *H*, Small pigmented bodies, possibly from hæmatoblasts. *E E*, Colloid corpuscles. *F F*, Fibrous connective tissue in slight, waxy degeneration.

FIG. 10.—GYROMA WITH PIGMENTED CORPUSCLES, × 100. *G G*, Gyroma. *M M*, Medulla of ovary with arteries in waxy degeneration. *C*, Central cavity of gyoma.

FIG. 12.—PIGMENTED GYROMA, × 1,200. *H H*, Hæmatoblasts. *S*, Smaller protoplasmic bodies with numerous pigment granules. *B*, Slightly striated basis-substance.



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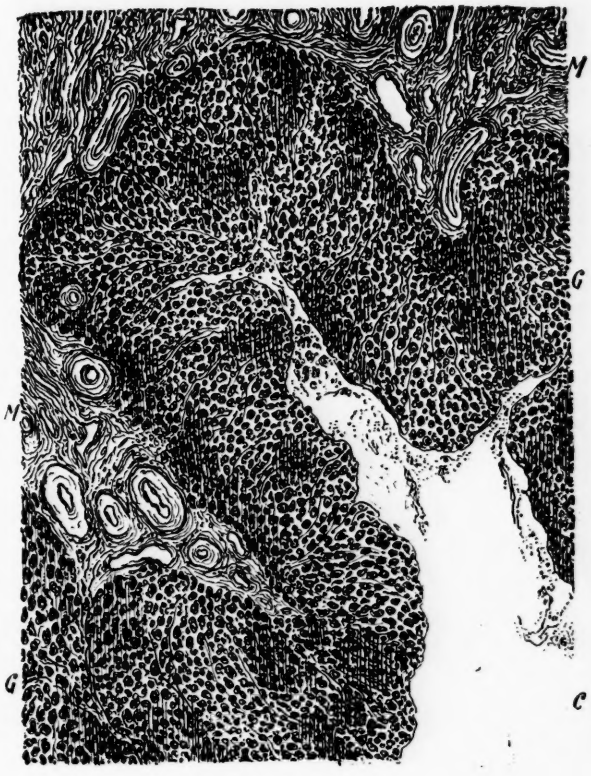

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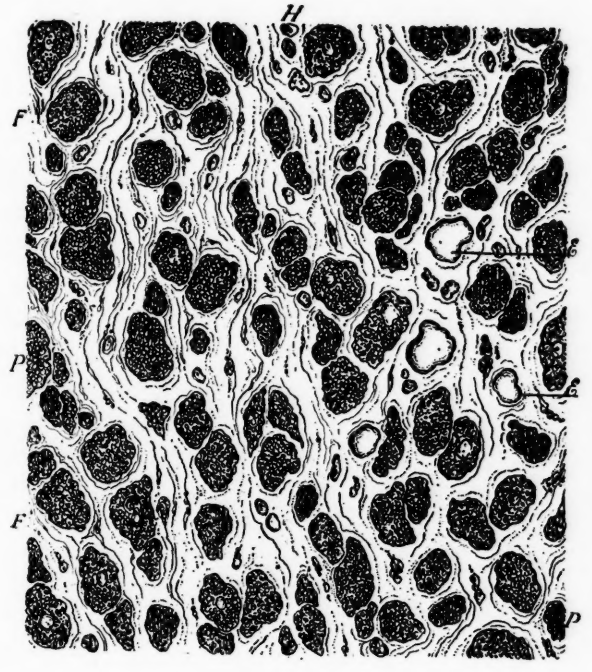

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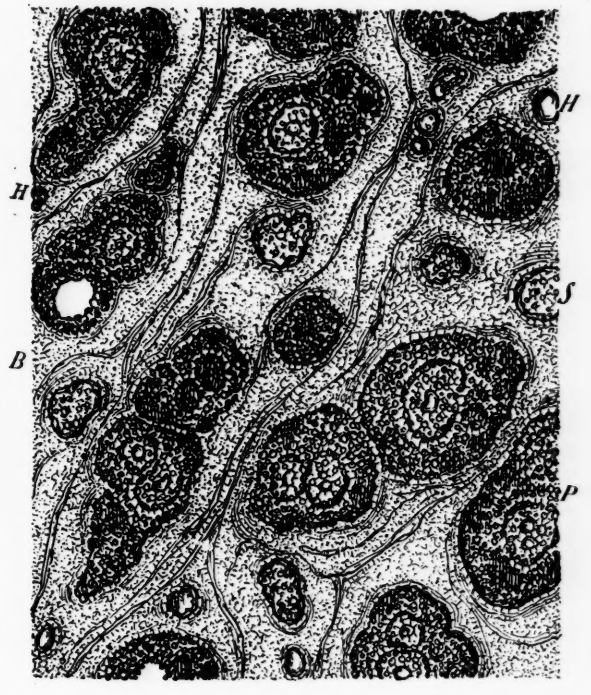

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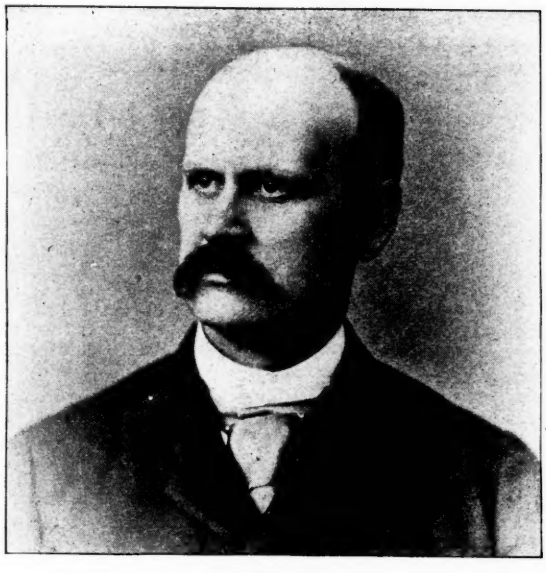
FIG. 11.—PIGMENTED CORPUSCLES IN A MENSTRUAL BODY, × 500. *P P*, Large protoplasmic bodies with brown granules. *H*, Small pigmented bodies, possibly from hæmatoblasts. *E E*, Colloid corpuscles. *F F*, Fibrous connective tissue in slight, waxy degeneration.

FIG. 10.—GYROMA WITH PIGMENTED CORPUSCLES, × 100. *G G*, Gyroma. *M M*, Medulla of ovary with arteries in waxy degeneration. *C*, Central cavity of gyoma.

FIG. 12.—PIGMENTED GYROMA, × 1,200. *H H*, Hæmatoblasts. *S*, Smaller protoplasmic bodies with numerous pigment granules. *B*, Slightly striated basis-substance.



E. E. MONTGOMERY, M.D.,

Professor of Gynecology, Jefferson Medical College, of Philadelphia.

The Times and Register

A Weekly Journal of Medicine and Surgery.

WILLIAM F. WAUGH, A.M., M.D., Managing Editor.

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DR. E. E. MONTGOMERY.

EVERY graduate of Jefferson is interested in the new member of her faculty, who fills the newly created Chair of Gynecology. As this copy goes to a large number of Jefferson's friends, we present them with this excellent portrait of the new Professor, and sketch of his life:

Dr. Montgomery was born in Newark, Ohio, in May, 1849. He lived on a farm until his sixteenth year. He graduated in the class of '71, in Dennison University, Granville, Ohio, and was made President of his class. He read medicine a year with Dr. J. J. Hamill, of Newark, at the same time teaching school. He entered Jefferson Medical College in 1872, and received the degree in '74; was President of the class, and was reported to have passed number one in the final examinations. He entered the Philadelphia Hospital as Resident Physician, where he remained until July, 1875, when he entered on the practice of medicine in the northern part of the city, serving as an assistant in the Philadelphia Eye and Ear Dispensary, and teaching Anatomy and Physiology in private classes at the Jefferson.

In 1878 he was elected Obstetrician in the Philadelphia Hospital, where he remained, with the exception of one year, until the present time. In 1886 he was elected Professor of Gynecology in the Medico-Chirurgical College; was its Secretary for nearly three years, and for the last year has held the Chair of Obstetrics in addition to that of Gynecology; is a member of the Philadelphia County Medical Society, College of Physicians, State Medical, and the American Medical Association. In the latter he is Chairman of the Section of Obstetrics and Diseases of Women for the present year; is a Fellow and ex-President of the American Association of Obstetricians and Gynecologists, an Honorary Fellow of the New York and Delaware State Medical Societies.

He has been quite an extensive contributor to the medical journals, mostly in the form of clinical lectures. Of some of the papers may be mentioned: "Laceration of the Cervix Uteri; its Etiology, Preventive Measures, Treatment and Results," *Medical and Surgical Reporter*, Philadelphia, 1882, xlvi, 453–457. "Procidentia and its Relief," *Transactions of the Medical Society of Pennsylvania*, Philadelphia, 1882, xiv, 131–139. "Is Craniotomy Justifiable?" *County Medical Society*, Philadelphia, February 14, 1883. "Cervical Pregnancy," *New York Medical Journal*, 1885, Vol. xli, p. 208. "Bromide of Ethyl as an Anæsthetic in Labor," *American Journal Obstetrics*, Vol. xviii, No. 6, 1885. "Laparotomy in Peritonitis," and "Extra Uterine Pregnancy; its Treatment," *Transactions American Association Obstetricians and Gynecologists*, 1888. Transactions of the same society for 1889, a paper on "Vaginal Hysterectomy and Cæsarean Section." In 1890 the President's Address, and in 1891, a paper on "Sacral Resection as Applied to Gynecological Work."

Letters to the Editor.

YOUR special numbers are immense.

JOHN N. DIMON, M.D.

I HAVE just read your scarlet fever and diphtheria articles. It was a wise thought to group so many from separate localities and different observers. I saw no article in it that pleased me more than that by our friend, Dr. Samuel Wolfe, brief though it is; yet there were many interesting ones.

HIRAM CORSON.

A NEUROTIC NUMBER?

I AM much interested in the professional atmosphere surrounding THE TIMES AND REGISTER, and especially the "Special Numbers." Can somebody tell us in the coming special number how to cure rheumatism in people past middle life, when one joint, usually a shoulder or knee, is the part affected?

Would it not be a good idea for you to give us a special number on some one or more of the neuroses? Tell us how to treat successfully the nervous American girl. She is everywhere, even too often in mind. It is my observation that the average country practicner has a very meagre knowledge of the diseases of the nervous system. TRUMAN COATES, M.D.

RUSSELLVILLE, PA.

AINHUM.

I SEE in your issue of April 2, page 346, that Mr. Johnson Smith reported to the West Kent Medico-Chirurgical Society, on February 5, a case of ainhum, the first, it was said, ever seen in this country.

This is an error. Dr. N. J. Pitman, of Tarboro, North Carolina, reported a case to the North Carolina Medical Society, May 10, 1880, and Dr. E. A. Hornady, of Willow Green, North Carolina, another to the same society in June, 1881. In the *American Journal of Medical Science* for January, 1884, there appears the report of a third case by Dr. L. A. Duhring, of Philadelphia.

There is yet another case, however, reported by Dr. A. C. Love, of Ascension Parish, Louisiana, and in connection therewith a very interesting paper discussing the etiology and pathology of the disease. This paper has been introduced by Dr. Joseph Jones,

of New Orleans, in his "Medical and Surgical Memoirs," Volume II, page 1283. I especially commend Dr. Love's paper to any one interested in the study of anihum.

J. T. BRINGIER, M.D.

BURNSIDE, LA.

Society Notes.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PEDIATRICS.

Stated Meeting, April 14, 1892.

DR. W. P. NORTHRUP, Chairman.

DR. MARY PUTNAM JACOBI reported a case of persistent ulcer in a girl of four years. Upon admission to the hospital there was an immense ulcer on the right thigh covering its entire centerior and external surfaces from the trochanter to the knee.

This had originated seventeen weeks before from a burn caused by matches which had taken fire in the child's pocket. It was extensive at first, but had steadily increased in size, except at the lower portion where some reparative process had taken place. Owing to the irritability of the child it had been neglected, and on admission was covered with a thick grayish slough. There was considerable fever, the temperature ranging from 102° to 103°.

Irrigation with a saturated solution of boracic acid and the use of zinc ointment, and a powder of salicylic and boracic acids was followed by disappearance of the fever, the surface of the ulcer assuming a better character. A number of skin grafts were made, four of which were successful. Sponge grafts were applied unsuccessfully. After four weeks treatment the ulcer measured 4½ inches by 3½ inches.

Although the grafts grow to be an inch in diameter, the ulcer steadily increased in size until it became 6½ inches long. At the same time it assumed a grayish look, the entire appearance being that of a syphilitic ulcer. Under a dressing of mercurial ointment it again became healthy.

Iodide of potash was given internally, and for a time apparently with the best of results. Improvement then ceased and the ulcer again assumed an unhealthy look. Bichloride of mercury was then added to the treatment (2½ months after the date of admission), and from that time improvement continued with out interruption, and the ulcer hadclosed in six weeks, eight months from the date of injury.

The child showed no evidence whatever of syphilis, but there was no permanent improvement until anti-syphilitis treatment was instituted. The series of relapses was only arrested when the bichloride was added to the iodide of potash and iodide of iron.

It was suggested that this did not necessarily mean that the ulcer was syphilitic in character, for treatment by iodide failed. It is quite possible that the mercury administered with iron acted as a tonic. The obstinacy of the ulceration might be due to the fact that the original ulcer was caused by matches, burns by phosphorus being noted for their obstinate character.

A MEMBRANOUS CAST OF THE TRACHEA

was presented by Dr. S. K. BRENEER, resident physician of the New York Infant Asylum. The patient, a girl seventeen months old, had been suddenly seized with symptoms of laryngeal diphtheria which had become progressively worse. Intubation was performed sixteen hours after the onset, dyspnœa being the most urgent symptom. A one-year tube was used and was at once coughed out. Before another tube could be introduced, and during a violent paroxysm of coughing, a complete cast of the trachea was expelled. A three-year tube was then introduced, and all dyspnœa and cyanosis was at once relieved. Quiet sleep followed; the child took her nourishment and stimulants well, and at that time, twelve hours after the intubation, the symptoms were all improved.

A CASE OF SARCOMA OF THE KIDNEY.

DR. JOSEPH O'DWYER being unable to be present presented through the Chairman a case of supposed sarcoma of the kidney. The patient was a girl three years and ten months of age. She had been under observation but a short time, and the history was uncertain. There were no symptoms referable to the growth, and as yet no impairment of nutrition. A large firm mass could be felt in the left side of the abdomen just below the line of the umbilicus, and could be distinctly seen when the child was upon the back. Posteriorly it could be detected in the lumbar region, and upon making pressure forward the whole mass could be felt to move freely.

It was slightly nodular and hard and tense to the feel. It seemed to cause no discomfort or pain, and was not sensitive to pressure. The urine contained a few blood cells and broken granular and hyaline casts. It was, beyond doubt, a kidney tumor, possibly a carcinoma. Carcinoma is, however, rare at this age, while sarcoma, if not common, is the most frequent kidney growth.

The speaker referred to a specimen presented the night before at the New York Pathological Society by a member of this section (D. L. Emmett Holt). The patient was two years of age. A tumor had been discovered in the right side five months before. There was but little impairment of nutrition and no definite symptoms. A diagnosis of sarcoma had been made and confirmed by operation. The growth weighed 2¼ pounds and was removed by lumbar incisions. One week after the operation the child was doing well.

But one result could be expected in the present case without operation. The mass would increase in size and the child would waste and die.

THE PRACTITIONER'S ANATOMY OF THR RESPIRATORY PASSAGES AS APPLIED TO INTUBATION, LARYNGOTOMY, TRACHEOTOMY AND BRONCHOTOMY.

A paper with this title was read by DR. JAMES E. KELLY, and was illustrated by numerous charts and diagrams and by several elaborate fresh dissections of the thorax and throat, both in children and adults, made especially for this occasion. These added greatly to the interest of the paper which was designated as a practical application of the author's extensive experience and observation as an anatomist to the needs of the general practitioner. Especial attention was given to the mechanical view of the subject, as being of far more value than the vast amount of detail to which the student is treated without a clue to its practical application.

The anatomy of the child varies but little from that of the adult. The thymus is the only structure that causes important modification in the region under consideration. In operating low down in the pretrachea space in young children it causes serious obstruction. It varies greatly in shape, and is subject to numerous anomalies. It usually forms a body extending entirely across the space between the sterno-mastoid muscles. Two processes pass upward in

close apposition to the tracheal fascia, and terminate within half an inch of the isthmus of the thyroid to which they are attached by two ligamentous bands. Hence, but a limited portion of the trachea is uncovered and available for operation below the isthmus of the thyroid. This latter body is occasionally absent and sometimes in an abnormal position, conditions which may be very puzzling to the operator.

It should be remembered that it is possible to make a dissection in this region as neatly and almost as bloodlessly in the living subject as in the cadaver. This is especially true in young patients. The more closely an operation resembles a dissection the more satisfactory it is to the surgeon and the safer for the patients. Hap-hazard surgery is a lottery in which fools play for their patients' lives.

In considering the anatomy of the region, the relations of the osseous structure are of much importance. The posterior surface of the larynx and trachea corresponds and adapts itself very closely to the contour of the centerior surface of the spinal column. The œsophagus and lower portion of the pharynx which occupy but little space, are the only structures between the trachea and the vertebræ. Thus the laryngo-trachea tube passing downward and backward intersects the place of the sterno-mastoid muscles. This is a point of much practical importance in low tracheotomy.

Laryngotomy is an operation so undesirable that it merits but little attention. It opens the larynx just below the rima glottidis where the canal is narrowed into a wedge, the thin edge being anterior. The cartilage is rigid and of such low vitality that the injury resulting from the separation and the introduction of a tube is liable to be followed by necrosis. There being but little subcutaneous tissue an unsightly scar usually results, which lies so high that it cannot be concealed.

The hybrid operation—laryngo-tracheotomy—is unjustifiable, as it destroys the continuity of the cricoid cartilage upon which the larynx largely depends for its shape.

Much vagueness and uncertainty exists regarding the anatomy of this region. It should be remembered that all the external operations on the respiratory passages are performed between the hyoid bone and the sternum, in the mesial line between the sterno-hyoid and sterno-thyroid muscles, low tracheotomy alone being done below the isthmus of the thyroid.

Not an important structure lies above the isthmus, but below there are numerous important vessels. This lower space is analogous to a space just above the pubis. Two spaces are formed by two distinct layers of fascio, which are fused above the isthmus to form a single fascio. In the superficial space are the anterior and transverse jugular veins and a few small arteries. In the deep space are the left innominate, the inferior thyroid and a venous plexus.

Much interest has, of late, been aroused in the operation of bronchotomy for the removal of a foreign body from a bronchus. The author, after extensive investigation, is inclined to think that the operation is justifiable, and that there is no insuperable anatomical difficulty in the way. The cordate shape of the chest places the root of the lung much nearer the surface than is usually supposed. A ventricle incision should be made through two or more costal cartilages or through the ribs just internal to the mammary line. This readily brings the structures into view, the relations of which are very close and intricate. While the mechanical difficulties are great, a still more important question is the possible effects of interference with the heart and great vessels. Upon this point little or nothing is known.

While intubation requires but little anatomical knowledge there are certain points which are quite essential. The point of the tube may enter numerous depressions and fossæ, preventing its introduction. The first are the glosso-epiglottic fossæ separated from each other by the frenum of the epiglottis. The glottis itself is situated in the midst of soft yielding tissues which are easily indented.

A slight depression exists just above the false vocal cords, which may readily catch the tube. The lateral ventricles of the larynx are, however, the source of most serious trouble. These ventricles lie upon either side between the true and false vocal cords. The true cords, especially in phonation or stridor, approach more closely to the mesial line than the false, thus forming a cavity with a concave floor in which the end of the tube is very easily entangled. Just behind the glottis, and separated from it by the arytenoid bodies, is the lower portion of the pharynx, the most capacious snare set for the operator, and the one into which he most frequently falls. This whole area in the infant is readily covered with the tip of the index finger. The surface of the glottis is, moreover, very oblique to the pharynx, so that the tube easily glides backward into that cavity. Unless the true cords are accurately reached, the point of the tube is deflected into the capacious and yielding ventricle.

The operation can, therefore, be performed with facility only when the tube is held parallel with the mesial line of the body, but obliquely to the long axis of the rima, and with the point directed toward the inferior margin of the cricoid cartilage. This can be effected by introducing the instrument into the mouth with the handle over the bicuspid tooth, with the point of the tube directed forward toward the glottis. The common error is thus avoided of passing over the epiglottis. Owing to the more extended area opposed to the ventricles, the tube is not so liable to be caught in them. As the surface of the larynx containing the glottis does not look upward, but almost directly backward, the handle of the introducer should be elevated to bring the point of the tube forward.

In young children the epiglottis is sometimes so soft and small as to be found with great difficulty. Pass the finger low into the pharynx until the resisting cricoid cartilage is felt, on the upper margin of which are situated two movable nodules, the arytenoid cartilages. Immediately above and in front of these in the mesial line is the epiglottis.

DR. H. D. CHAPIN said that he had performed tracheotomy several times upon children under two years, and had been surprised at the extreme obliquity of the trachea which caused it to lie at the great depth at the lower portion. This was a strong argument in favor of intubation in young children instead of tracheotomy.

The Chairman asked Dr. Kelly what point he regarded as the narrowest in the respiratory tract.

DR. KELLY replied that he believed it was at the true vocal cords.

The Chairman referred to experiments upon the dead subject by Dr. O'Dwyer and himself, which proved that the narrowest point was not at the cords, but at the cricoid cartilage. An intubation tube could frequently be drawn with the use of but little force downward past the cords, which could not be made to pass below the cricoid. A tube much smaller than the prescribed size might drop below the cords,

but would not pass below the cricoid into the trachea. The most recent modification of the tube approved by Dr. O'Dwyer consisted in making the lower end bulbous in shape and equal in size to the largest part of the tube. This would prevent its entering the ventricle of the larynx, a very frequent source of failure.

DR. BERG asked if the operation for bronchotomy could not be done to better advantage posteriorly.

DR. KELLY replied that if the tube were turned to the side as far as possible during introduction it would bring the long diameter in position to act as effectually as the bulb described. The posterior operation was impossible because of the closer opposition and less yielding character of the ribs, requiring extensive resection. The trunks of the intercostal vessels were also met posteriorly instead of the branches.

The Medical Digest.

A CASE OF MYXŒDEMA WITH INSANITY TREATED BY INJECTION WITH EXTRACT OF THYROID GLAND.—The results reported to have been obtained in cases of myxœdema by injection of an extract of thyroid gland have been sufficiently favorable to justify a more extensive trial, while the small number of published cases may possibly render the following record of some interest. The account published by Dr. George R. Murray, of Newcastle on-Tyne, in the *British Medical Journal*, October 10, 1891, suggested its application in a case which seemed likely to furnish a good test of the efficacy of this treatment conducted under favorable circumstances:

M. P., aged forty-three, married, was admitted in October, 1887, subject to delusions, incoherent in her language, and violent in her manner. It was her first attack, and had lasted twelve months. Her general mental condition was one of exaltation, and her behavior, though in the main quiet, was varied occasionally by paroxysms of excitement, characterized by shouting, gesticulation, delusions of persecution, and forcible statement of fancied grievances. When quiet, she employed herself with the needle. The facies and other well-known characteristics of myœdema were noted at the time of admission, and she continued in practically the same state mentally and bodily till the commencement of treatment on October 21, 1891. Note on present state at that time: The patient exhibits very typically the thickening of hands and feet, the coarsening of the features, blueness of lips, persistent malar flush, and dry, earthy skin, which mark the disease. The hair is dry, rather short, and absent on the back of the neck. No trace of thyroid gland is to be felt. There does not appear to be any muscular wasting or actual loss of power, but movements are clumsy, and speech coordination is affected, the words being slowly produced and badly formed, though this last is partly due to a very defective set of teeth. The tongue is clean and appetite good. Menstruation has been absent for more than a year. The first heart sound is faint, but there is no murmur. Respiratory and urinary systems are normal. Urine: amount, forty-three ounces; specific gravity, 1012; contains mucous cloud, but no albumen. Patient's weight on October 1st was ten stone, three pounds.

Mentally, she is partly incoherent, and constantly complains of her treatment. She gesticulates a good deal, and is apt to get excited and noisy when noticed, but does not use violence. She has not helped in any ward work lately.

October 21. The patient was injected with 25 minims of extract of cow's thyroid, prepared as directed by Dr. Murray.

On October 29, and all subsequent occasions, the extract used was obtained from pig's thyroid. The injections were thenceforward performed with regularity twice a week until February 7, with the exception that a week was missed in January owing to my absence. After four injections her demeanor was noted as being quieter, and after six (November 19) improvement in face and returning moisture in the skin were apparent. The blueness of the lips diminished, the malar flush and earthy tint of skin faded away, and by the end of the year it would have been a matter of difficulty, if not impossibility, to diagnose the condition from the facial appearance. The mental state was meanwhile improving, although every now and again an attack of excitement intervened, and articulation was performed with remarkably greater ease and quickness. On and after December 23 she was sufficiently sensible to take part in the work of the wards.

January 4. Complained of feeling ill; had a slight rigor. She was confined to bed for some days by this febrile attack, accompanied by pain and swelling at the site of the last injection, due doubtless to some accidental septic contamination of the syringe, for this was the only occasion on which a distinct reaction was observed.

January 10. The patient herself remarked that today, for the first time since admission, she had been able to take off her wedding-ring.

January 24. Young hair was noticed growing on the back of the neck, and also among the hair on the rest of the scalp.

February 7. The injections were stopped after today.

Before treatment the patient had lost weight, but not so steadily and continuously as after: Weights: January, 1891: 11st.; October 1: 10 st. 3 lbs.; November 1: 10 st. 2 lbs.; December 1: 9 st. 6 lbs.; January 1: 8 st. 11 lbs.; February 1: 8 st. 9 lbs.; March 1: 8 st. 6 lbs.

Remarks.—The rapid progress of improvement in the bodily and mental condition of this patient is strongly corroborative testimony to the value of this method of treatment. She had been an inmate of the asylum for four years. Undoubtedly, the amelioration of bodily condition was much more distinct than that of the mental; for while one could not well say that there were any obvious morbid physical conditions after the course of treatment, and certainly none characteristic of myxœdema, the patient's intellectual powers remained in a degree impaired. She was still partially demented, with a tendency to emotionalism. The injections were stopped on account of failure in the supply of fresh thyroids, or possibly a further improvement might have taken place; but the long establishment of mental symptoms makes it more than probable that irreparable degenerations have taken place in the cells of the brain cortex.[1]

Beyond a record of steady abatement in pathognomonic signs, the history of the case itself furnishes little that requires comment. The continual loss of weight coincident with a good appetite, increased feeling of well-being, and a gain in bodily activity, is a noteworthy point. The diuretic action attributed to thyroid extract by Hurry Fenwick[2] was not thor-

[1] *Cf.* J. R. Whitwell's paper, *British Medical Journal*, February 28, 1892.

[2] *British Medical Journal*, October 10, 1891.

oughly tested, owing to the special difficulties which surround the collection and measurement of the urine passed by an insane patient, but a rough observation did not point to any marked action in this direction. The absence of any obvious reaction or immediate effect after injection has already been noticed, though the patient herself volunteered the statement that she always felt better on the day following.

A few words may be added on the method of preparation and mode of exhibition of the extract. The asylum slaughter-house, while it enabled me to get the organ warm from the newly-killed animal, offered no variety. Owing to the arrangements of the establishment, the young pig's was the only kind available for use. At the outset I followed strictly the procedure detailed by Dr. Murray, but, subsequently, with the object of getting the strongest possible dose of the active principle in a bulk not inconveniently large for injection, I modified the steps, and the method ultimately arrived at was as follows: The gland having been cleared of fat and fibrous tissue, a portion, as large as a damson, was cut up, put into a mortar with some glass (for example, a broken test-tube), about ½ a drachm of glycerine, and a drop or two of 5 per cent. carbolic acid solution, and the whole ground together to a fine paste. The latter was allowed to settle in a test-tube for twenty-four hours, leaving a clear, dark-red extract at the top, which was decanted off, and filtered through linen, to insure freedom from glass particles. The extract was made fresh every week, strict antiseptic precautions being observed with regard to all utensils, etc., used, which were cleansed by means of boiling or washing with carbolic lotion, and a drachm of it was given every week in divided doses.

In the present scanty state of our knowledge concerning the active principle of the thyroid gland and of the structural constituent from which it is derived, and in view of the variations not only in their size, but also in the amount of fibrous stroma in the different specimens obtained, it seemed useless to pretend to any accurate dosage, and my efforts were directed, as above described, to procuring the strongest extract that could be conveniently used for injection. The site of the latter was on alternate sides, between the shoulder-blades, and an ordinary hypodermic syringe employed.

Ernest C. Carter, *British Med. Jour.*

Treatment of Empyema.—Here, as elsewhere, pus should be evacuated. This is made the *rule*, even though it be well known that more than one case has proven the possibility of a cure by resorption. These, however, are cases of metapneumonic and limited effusions, yet the expectant plan of treatment holds out so little chance that it should not be adopted.

On the same plan is the method of Baelz, which seeks to favor absorption by the removal of a portion of the pus by aspiration, and then injecting an antiseptic fluid (Van Zwieten, zinc chloride, iodine, etc.), in quantity equal to that of the pus removed, thus diluting the pus. The results of this method are poor.

Thoracentesis, *i. e.*, evacuation of pus by means of a trocar, with or without aspiration.

This method does, undoubtedly, and not so very infrequently, lead to a cure, rapid or final. But in looking over the cases cured by this method, two things become apparent:

1. They are mostly in children.

2. They are all but invariably those empyemas due to the pneumococci. As a matter of fact, the pneumococcus is, in children, the cause of at least half the empyemas.

Thus, simple thoracentesis could be recommended in cases of empyema due to the pneumococcus both in adults and children, especially the latter.

If the cause of the suppuration be the streptococcus, simple evacuation of the pus is not to be recommended, as it leads to bad results. Here it is much better to make the old operation of pleurotomy.

But this operation has a very decided surgical aspect, hence the frequent efforts to find, as a substitute, something of a less repugnant outward appearance, for instance, the introduction through trocars of drainage-tubes, at one or at several places. The siphon of Potain, etc., are all objectionable, for they do not completely drain the cavity. Lavage is difficult, and putrefaction a frequent complication. However, Bülan has recently proposed a method which met with much favorable comment at the last Vienna Medical Congress. It consists, essentially, in the introduction, through a large-sized trocar into the pleural space, of a rubber tube, the lower end of which is submerged in a basin, placed on the floor, of bichloride solution. Bülan holds that the negative pressure of the pleural space is maintained and the lung prevented from retracting. No air is admitted during the operation.

It would seem to be a good plan of operating in these cases of infection due to the pneumococcus which resist one or two aspirations, and also in those cases, happily quite rare, where there is a double empyema.

Nevertheless, pleurotomy remains the operation for the great majority of cases, and even in those cases which could probably be treated by simple aspiration, pleurotomy offers even a better chance of a definite and speedy cure. The opening is best made in the sixth and seventh intercostal space, in the axillary line. The one precaution necessary to take is to hug the upper border of the lower rib in making the incision through the pleura, and then allow the pus to escape slowly; then use the drainage-tube and dressing.

The majority of cases are cured after this operation; most of them in from three weeks to two or three months.

Not infrequently the simple operation of pleurotomy must be associated with a resection of one or more ribs.

Resection of the rib is frequently performed in those cases where an early and speedy cure is to be expected, as it insures good drainage.

In other cases, where there has already been some contraction of the thorax, it is the best means of obtaining room enough for the opening through which the tube is to pass.

In still other cases, the removal of parts of one or more ribs is done, with not alone the intention of facilitating the escape of the pus, but further to aid in the collapsing of the thorax.

Treatment of Inveterate Empyema.—In a certain number of cases a fistula persists. The cavity between the lung and thorax wall is, after many months, of considerable size. What cases tend to become inveterate? Beyond a doubt those which, beginning as a serous pleurisy, gradually become purulent. Cases where the tubercle bacillus plays an important rôle; also cases which have been neglected. How are such cases to be treated?

It is well known that a cure may be expected only where two layers, visceral and parietal, of the pleura, coming in contact, unite with each other, and thus obliterate the cavity. In these cases the visceral pleura has become so enormously thickened that the

lung can not expand; hence the ribs, diaphragm, etc., must go to meet the lung.

So, virtually, the question of treatment resolves itself into how best to facilitate the approximation of the ribs to the lung.

To this end we have to-day two operations, similar in character, yet sufficiently different to merit separation.

Estländer's operation consists essentially in the sub-periostial resection of several ribs, the shape of the entire field being triangular, the apex upward, base downward. The site of the operation is usually in the axillary region, and the resections made not from one but from two or three skin incisions. The incisions being over and parallel to the intercostal spaces, from each the two adjacent ribs are resected, and then the incisions closed—that is, all except the lower one, which is used for drainage. Again, the pleura is perforated so that the wound in it lies on the same level as the wound in the skin. A rapid diminution in size of the affected half of the thorax usually results.

Schede's operation has for its principle the removal of a segment of the chest wall, and is performed as follows: The skin incision, either U or H-shaped, enables one to reflect the soft parts covering the ribs in the form of a flap. Large sections of the exposed ribs are then removed subperiostially, the pleural sac opened, and pus allowed to escape; then the costal pleura, often much thickened, excised with the scissors over the entire area corresponding to the resections. The skin flap is replaced and secured by sutures, leaving drainage.

Inveterate empyemas are rarely cured by one operation, whether it be of the Estländer or Schede type.

Fever, tuberculosis, and amyloid degeneration, are not, according to Schede, contra-indications to the operations.

All operations should be done under the strictest aseptic and antiseptic precautions.

Conclusions.—The operation of tapping—thoracentesis—may be tried in empyemas due to the pneumococcus—metapneumonic.

The operation of syphon drainage—Bülan's operation—may be tried in the same class of cases, and also in bilateral empyemas, whether due to the pneumococcus or not.

Permanent drainage, with or without the resection of one or two ribs, is the operation which gives the best results in the largest number of cases of empyema, especially those forms due to infection with the pus-forming microbes proper.

The operations of Estländer and Schede are to be recommended in the inveterate empyemas, due generally to a mixed infection—tubercle bacilli and streptococcus.

A bacteriological examination of the pus, removed at the time when the diagnosis of empyema is made, may aid us very considerably in making a prognosis and deciding upon the operation, and its extent, if not its character.—Seth Evans, *Lancet Clinic.*

DYSPEPTIC DIARRHŒA OF INFANTS.—Among the diseases which in the past have greatly increased the mortality rate in the warm season, the various digestive complaints of nursing children have furnished a large proportion.

Better hygiene is reducing this mortality. A brief article on the subject, while perhaps not furnishing anything new, will refresh our memories on points gained in the past.

As dyspeptic diarrhœa is one of the most common forms and is an important factor in nearly all cases, we will consider it as it occurs in babies, who are the victims of artificial feeding. Cow's milk, prepared food, or condensed milk may have been used. Either of these, properly used, will answer in most cases, but neither is proof against the abuse it so frequently meets with.

In most cases we will be called to treat infants fed with cow's milk, and in most cases either the milk will have been tainted or our patients will be the victims of too frequent feeding. During the hot summer days the child becomes thirsty, and instead of being allowed water to drink, it is given the bottle.

Eliminate all carbo-hydrates from the food, and let Being thirsty as well as hungry, it overloads the stomach, not once, but repeatedly.

The stomach is not able to digest all that is forced upon it, and the undigested curd passes on into the intestines to become a source of irritation, and we have acute dyspeptic diarrhœa set up. The overfeeding still continues; the stomach at last rebels; the food is immediately rejected. No food being retained and the profuse evacuations continuing, rapid emaciation takes place, followed by entero colitis.

For the sake of the treatment we may speak of two forms:

1. Where milk is speedily ejected and the passages are sour, green and contain curdled milk.
2. Where there is less vomiting and the evacuations are putrid.

For the first class the following is very useful:

℞.—Syr. rhei aromatic.
Aquæ calcis.....āā ℥ij.
Spts. ammonia aromatic..... ℥ij.
M.—Sig. One teaspoonful after each movement of the bowels.

albumen be given, but very sparingly, for twenty-four hours. The white of eggs, beef juice or bovinine answer well.

For the second class we may use:

℞.—Zinc sulpho-carbolat..... gr. v.
Bismuth subnitrat..... gr. xxxvj.
Lactopeptine..... gr. xxiv.
M.—Ft. in chart No. xxiv.
Sig. One every two hours.

Here the food should consist of carbo-hydrates: barley water or starch water well cooked to convert the starch into dextrine. After the acute stage and in chronic cases, well diluted cream is very successful. Meat broths are useful in both classes.

These hints as to diet are only intended for the acute stage.

Properly diluted cow's milk or one of the many prepared foods will usually be suitably in two or three days.

In this connection I will report a case which threatened a fatal termination. A thin, nervous child, aged three months. Had been fed on condensed milk from birth. Had been fed too frequently, and in too large quantities. Bowels relaxed and stools undigested.

The inevitable result followed: enterocolitis which developed an acute hydrocephaloid condition within twenty-four hours of my first visit.

There was constant rolling of the head which was drawn back. Eyes staring, but would not notice anything. An unfavorable prognosis was given. Milk was forbidden and starch-water was given. Various remedies as indicated were given for the cerebral complication, but the proper control of the intestinal disturbance was considered of more impart-

ance. Suppression of urine following was met with tincture apocynum. The acute symptoms subsided in a short time, but it was found impossible to use a milk diet. Peptonized milk and various prepared foods were used with only partial success, till at last we began the use of lacto-preparata which has the advantage of being pre-digested, and also that it does not require the addition of fresh milk to prepare it for use. On this the baby continued to thrive. —*St. Louis Clinique.*

[Lactopeptine is simply a mixture of the various digestants, of some value, but very dear at one dollar an ounce. We would like to hear from any of our readers who have had success with a substitute of their own composition. We offer the following as a suggestion: Pepsin, gr. xx; granulated extract of malt, ℥j. The pancreatic extract in lactopeptine is useless, as it is itself destroyed by pepsin before it can exert any action of its own; the lactic acid is injurious, the hydrochloric unnecessary, as if there is not enough in the stomach the amount in lactopeptine is too small to be of any value.—ED. T. AND R.]

THE GENERATION OF CHOLERA IN INDIA.—An interesting report on a local outbreak of cholera, which took place at a village a few miles northwest of Calcutta, and which throws a good deal of light on the question how cholera is generated in the East, has been made by Dr. Gregg, the Sanitary Commissioner of Bengal. Dr. Gregg went himself to investigate carefully the condition of the place in which the outbreak took place. He found that the physical formation of all portions of the affected locality is similar, and the ground low and swampy. Over the whole area tanks have been dug of various sizes, shapes, and depths, and all contain very dirty water. Low, foul jungle, reeking with bad smells, surround these tanks, the surfaces of which are almost completely hidden with thick, decaying water-plants, with here and there a clear place, where the inhabitants wash their cooking utensils, and draw water for domestic purposes. Between and around the houses are narrow lanes, bordered by narrow, deep uneven drains, in which filth collects. The substances under the influence of the hot sun quickly decompose and emit foul smells. In places Dr. Gregg actually observed "masses of undulating maggots and portions of decaying animals." Wherever the people living in the houses in the neighborhood of these tanks had used the water, there cholera had made its appearance, and the tanks are also the sources from which the milkmen obtain water for their cows, and it is more than probable they dilute the milk they sell with the same water. Continuing his inquiries from house to house, Dr. Gregg found that wherever the supply of milk was obtained from cows who drank at dirty tanks, cholera was present, and that there was a corresponding absence of cholera amongst the police constables, who were supplied with clean water from the police tank, and obtained their milk supply from a distance.—*Hospital Gazette.*

REMOVAL OF THE UTERINE APPENDAGES BY A SOW GELDER.—Mr. Arthur Thomson, Lecturer on Anatomy, at the Medical School, Oxford, sends us the following extract from a book entitled "Man Transformed, or the Artificial Changling," by J. B. (John Bulwer, M.D.), published in 1653, as being of some interest and service in connection with the history of the subject of removal of the ovaries.

"The Artificial Changling, p. 364.—It is an anatomical question, *an mulier castrari possit*, and it appears *de facto* to have done; but concerning the manner of operation there ariseth a great difficulty—whether they castrated women by drawing out their wombe, or by avulsion of their testicles. Both waies it is certaine that women will be brought into great danger of life; for although sows may be spaded, yet with the like security it cannot be administered in women by reason of the seat wherein they are placed, and the society they have with other parts; for he must necessarily cut both the flankes who would castrate a woman, a work full of desparate hazard, yet it may be done with little or no danger if it be attempted by an artfull hand. And a friend of mine told me he knew a maid in Northamptonshire that was thus spaded by a sow gelder, and escaping the danger, grew thereupon very fat. A gentleman who undertook since in some company to tell me this story, againe said he was present at the assizes of Northampton, when this sow gelder was arraigned for this fact. I doubt there is some mistake in the scene, for by another information of a justice that was there, it was in Lincolnshire, and the fact done upon Lincoln Heath, and that was not his first fact, so that his first attempt might be upon the Northampton maid. This last maid's name was Margaret Brigstock, but the judges were much confounded how to give sentence upon an act against which they had no law; for although the castration of men was fellony by the law, yet there was nothing enacted against spading of women; and well might they be ignorant of such a case when Platerus, the great physician, professeth he remembereth not that ever he read or heard of such an attempt. This Clearke (for that was his name) was hanged for this last fact, but not by a law, but for robbing her of two penniworth of apples which she had in her apron."—*Brit. Med. Jour.*

FRENCH NOTES.

A. E. ROUSSEL, M.D.

THE TREATMENT OF CHOREA IN THE PARIS HOSPITALS.—Dr. Sée considers that antipyrine and arsenic furnish the most prompt results in ordinary cases. If there is any rheumatic history, we must have recourse to antipyrine, associated with salicylate of soda. M. Sée also recommends sulphur baths. In the cases of cardiac choreas, chloral and hydrotherapy, associated with cardiac medicaments, the iodide of potassium, and particularly the iodide of calcium.

According to M. Gilbert Ballet, ordinary chorea tends to a spontaneous cure. We must, therefore, abstain from all disturbing medication. He rejects antipyrine.

Arsenic in moderate doses (10 to 12 drops of Fowler's solution daily, in children about ten years of age). Gymnastics are rarely useful. The tonics and iron are very useful in cases of chlorosis or anæmia. In very severe cases the spray of ether along the vertebral column. The bromides are only useful in those cases complicated with physical troubles, hallucinations, etc. Good hygiene, reconstructive alimentation, absence of fatigue, short walks in the open air, are the best prescriptions.

In children, according to M. Déjerine, all special medication is useless. He recommends tonics and massage, salt baths, Swedish movements and dry frictions. He insists on the necessity of good hygiene.

M. Geoffroy, in light cases or those of moderate intensity, insists on sleep for a great number of hours; for this purpose he prescribes 15 or more grains of chloræ, to be taken after each meal.

During the time that the children are about we must avoid all fatigue, a physical or mental excitation.

In the more severe cases, antipyrine is inefficacious. We must then have recourse to the wet sheet, to be used twice during the day.

In severe cases M. Geoffroy makes use of the wet sheet, to antipyrine, and to lotions with an antiseptic solution.

Antipyrine gives the best results to M. Albert Robin. He administers as high as 30 grains a day in four divided doses, associated with a few grains of bicarbonate of soda. This is continued for a period of from eight to fifteen days, and is then replaced by arseniate of soda in solution of ¾ grains to nine ounces of water, and administers two tablespoonfuls a day. When this solution is finished we return to the antipyrine, and so on.

M. Raymond has confidence in but two medicaments: chloral and antipyrine. Acetanilide has succeeded in a few cases.

M. Luys employs a very simple treatment. All the therapeutics of chorea are contained in the following words: *transfert par les aimants* and rotative mirrors.

M. Sevestre does not think that chorea can be pogalated; but we can alternate the symptoms, and occasionally abbreviate the duration. He prefers the use of antipyrine. Commencing in doses of 15 to 30 grains a day (in doses of 8 grains in a solution of sweetened water) and increase rather rapidly until 45 to 60 grains a day are given. At the same time he administers arsenic, either 6 to 12 drops of Fowler's a day, or the solution of arseniate of soda (¾ grain to 8 ounces of water; two or three teaspoonfuls at a dose). We must avoid all excitement, and in cases of necessity isolate the patient.

M. Ollivier employs massage, and is very well satisfied by the results obtained by this method. In a general way he prescribes iron, arsenic and hydrotheraphy.

M. d'Heilly insists particularly on hygiene and tonics; he recommends prolonged sleep. In light cases, arsenic, iron bitters and sulphur baths suffice. In severe cases, antipyrine and chloral succeed the list.

M. Legroux, in a communication to the Academié, on December 27, 1887, first stated the good results to be obtained from antipyrine. M. Legroux continues to have recourse to this medicament (60 grains a day). According to him, the administration of antipyrine is followed by a cure in from fifteen to twenty days, in doses of 45 to 60 grains in syrup or punch (15 grains being taken at each meal). In hysterical cases, the bromides (30, 45 or 60 grains a day at mealtime) and cold douches give the best results.

According to M. Canby, there are two series of indications to be followed in ordinary chorea:

1. Moral hygiene—isolate the child.

2. The sedative influence on the nervous system.

M. Canby first tries the bromide of potassium in doses of 30, 45 or 60 grains a day, according to the age and cold douches given daily for a short period of time. If the malady resists, he has recourse to antipyrine (15 or 30 grains) or to arsenic.

M. Jules Simon recommends:

1. During the first four days, counter irritation to the upper portion of the spine by means of hot frictions, a mustard-plaster, or dry cups, and these daily, the use of preparations of aconite and conium in doses of from 10 to 15 drops in the twenty-four hours.

2. At the end of fifteen days the child should arise from bed, and M. Simon administers antipyrine in progressive doses (15, 30, 45, 60 and 75 grains in the twenty-four hours). This treatment is continued for several weeks.

3. At the close, when the movements are very greatly diminished, we make use of rhythmic gymnastics.

At the same time, M. Simon prescribes tonics, salt baths, dry frictions, etc. But he forbids a sojourn at the sea-shore.—*Revue de Therapeutique.*

Medical News and Miscellany.

DR. A. P. BLOMER, of Philadelphia, died April 25, aged fifty-one years.

A CURIOUS case is reported from the Chicago Pasteur Institute. An epileptic boy underwent a course of Pasteur treatment on account of a dog bite, in August, 1890. Since this he has had no more attacks of epilepsy.

THE second annual meeting of the American Electro-therapeutic Association will be held in New York October 4, 5 and 6, 1892, at the New York Academy of Medicine, 17 West Forty-third street. W. J. Morton, M.D., President; H. R. Bigelow, M.D., Secretary.

DR. J. R. HILL, of Millington, Maryland, physician to the Queen Anne and Kent Railroad, was murdered on Saturday night, April 23. His body was found in his carriage, the throat cut from ear to ear. The murder is thought to have been committed by some negroes, in revenge for the doctor's testimony in a recent suit, whereby a white man was acquitted of the killing of a negro.

WEEKLY Report of Interments in Philadelphia, from April 16 to April 23, 1892:

CAUSES OF DEATH.	Adults.	Minors.	CAUSES OF DEATH.	Adults.	Minors.
Abscess	1		Inanition	1	13
Apoplexy	13		Influenza	4	1
Anæmia	1		Inflammation, bladder	1	
Bright's disease	4	1	" brain	1	9
Burns and scalds	1		" bronchi	11	6
Cancer	11		" kidneys	2	2
Casualties	11	2	" larynx	1	2
Congestion of the brain		5	" liver	1	
" " lungs	2	3	" lungs	20	21
" " liver		1	" peritoneum	6	
Cholera infantum		4	" s. & bowels	4	1
Cirrhosis of the liver	1		" uterus	1	
Collapse of lungs		1	" heart		2
Consumption of the lungs	47	6	Jaundice		1
" " bowels	1		Malignant pustule	1	
Convulsions		21	Malformation		1
Croup		12	Marasmus	1	12
Cyanosis		8	Measles		1
Debility	1	1	Necrosis of tibia	1	
Diphtheria	1	15	Neuralgia of the heart	1	
Disease of the spine	2	1	Obstruction of the bowels	2	
" " heart	31	6	Old age	14	
" " kidneys	1		Paralysis	13	
" " liver	1		Poisoning		2
Drowned	1		Pyæmia	1	
Dropsy	1	1	Rheumatism	4	
Dysentery	1		Retention of urine	1	
Effusion of the brain		3	Rupture of gall-bladder		1
Erysipelas	1	1	Septicæmia	1	
Fatty degeneration of the heart	1		Softening of the brain	2	
Fever, catarrhal		1	Suffocation		3
" malarial	1		Suicide	1	1
" remittent		1	Syphilis		1
" scarlet		11	Teething		3
" typhoid	5	3	Tetanus		1
Gangrene	2		Uræmia	2	
Hernia	1		Whooping cough		1
Homicide	1		Total	243	193

THE Alumni Association of the Medico-Chirurgical College will hold its annual meeting on May 2, at noon. At eight o'clock, in the evening of the same day, the Honorable Postmaster-General will deliver an address before the Association in the amphitheater of the college building, Cherry, below Eighteenth street. Following the address a dinner will be tendered the orator.

NEW JERSEY MEDICAL SOCIETY.—The one hundred and twenty-sixth annual meeting of the Medical Society of New Jersey will be held at the United States Hotel, Atlantic City, June 28 and 29. At a meeting of the Committee of Arrangements on April 21, a letter from Robt. M. Davis, General Manager of the Atlantic City R. R. Co., was read, offering to the committee a special complimentary train from Camden to Atlantic City and return on the day of the meeting. In the evening of June 28, the members of the Society will be given a banquet by the citizens of Atlantic City.

MANAGEMENT OF HOSPITALS AT NORTH BROTHER ISLAND.—At a meeting of the Board of Health held April 12, the following resolution was adopted:

"*Resolved*, That upon due consideration of the testimony taken at an investigation in respect to the management of Dr. F. R. Percival, of the Riverside Hospital, at North Brother Island, in connection with typhus fever cases, this board concludes that the persons sick with typhus fever have been properly treated and cared for, and that no further action is necessary in the premises at present."

Soon after the investigation referred to was commenced, Dr. Percival was removed from the charge of the typhus fever cases and transferred to the charge of patients ill with other contagious diseases at North Brother Island, and he is still on duty in the latter position.

To date two hundred and fifty-two persons have applied to the Chicago Pasteur Institute for treatment. The treatment, however, was not given to one hundred and forty-eight applicants, as not reasonable evidence was produced to demonstrate that the animals which inflicted the bites were rabid; one hundred and four received treatment. Following the rule of Pasteur, the patients treated have been classified into three principal categories:

1. Patients bitten by animals recognized and ascertained to be rabid by the proof experiment made in the laboratory; or by the death of other animals or persons bitten by the same animal.
2. Patients bitten by animals recognized to be rabid by the symptoms of the disease.
3. Patients bitten by animals strongly suspected to be rabid.

Of the first class there were treated twenty-nine; of the second, forty-four; and of the third, thirty-one —total, one hundred and four. All these are now enjoying good health.

ORGANIZATION OF THE PENNSYLVANIA SOCIETY FOR THE PREVENTION OF TUBERCULOSIS.—The Pennsylvania Society for the Prevention of Tuberculosis, popularly known as consumption, was organized last week at the office of Dr. Lawrence F. Flick, 736 Pine street. Among those enrolled were Dr. Benjamin Lee, Secretary of the State Board of Health; E. L. Gilliams, Miss Gertrude Farr, Miss Caroline Farr, Jules Junker, James L. Stanton, Esq., Miss Maggie T. Green, Miss Mary Jackson, Miss Annie Jackson, Mrs. Lawrence F. Flick, Mrs. Richard P. White, Dr. Lawrence F. Flick, Samuel Castner, Jr., Dr. Edward J. Nolan, Dr. J. H. Musser, J. V. P. Turner, Registrar of the Bureau of Health; Miss Susan M. Gibbons, Joseph M. Engel, Miss Emma Carroll and Stephen Farrelly.

The Society's object will be furthered:

1. By promulgating the doctrine of the contagiousness of the disease.
2. By instrucing the public in practical methods of avoidance and prevention.
3. By visiting the consumptive poor and supplying them with the necessary materials with which to protect themselves against the disease and instructing them in their use.
4. By furnishing the consumptive poor with hospital treatment.
5. By co-operating with Boards of Health, in such measures as they may adopt for the prevention of the disease.
6. By advocating the enactment of appropriate laws for the prevention of the disease.
7. By such other methods as the Society may from time to time adopt.

JEFFERSON COLLEGE ALUMNI—RECEPTION AND BANQUET TO PROFESSOR JEROME K. BAUDUY, OF ST. LOUIS.—In the amphitheatre of the hospital of the Jefferson Medical College, April, Professor Jerome K. Bauduy, M.D., of St. Louis, delivered the annual oration before the College Alumni Association, and subsequently he was given a reception by the Alumni at the Hotel Stratford.

The banquetting hall was tastefully decorated with flowers and potted plants, while a hidden orchestra added considerably to the enjoyment of the evening. Professor W. W. Keen presided and made an address, and toasts were responded to by City Treasurer McCreary, one of the recently elected trustees of the college; Professor J. W. Holland, Professor E. E. Montgomery, Dr. William Easterly Ashton, Dr. J. Chalmers Da Costa and Geo. H. Maknen.

Among those present were:

Dr. Oscar H. Allis, Dr. S. B. Arment, Dr. William Easterly Ashton, Dr. Thomas G. Ashton, Dr. J. M. Barton, Dr. Arthur E. Bate, Professor J. K. Bauduy, Dr. T. Ridgway Barker, Major L. S. Bent, Dr. David Bevan, Dr. James H. Bell, Dr. J. Lewis Borsch, Professor J. H. Brinton, Dr. Charles E. Bricker, Professor D. G. Brinton, Dr. Lewis Brinton, Dr. Franklin Brady, Dr. A. P. Brubaker, Dr. Wilson Buckby, Dr. Ross R. Bunting, Dr. James Van Buskirk, Dr. J. Abbott Cantrell, Professor Henry C. Chapman, Dr. A. F. Chase, Dr. S. Solis-Cohen, Dr. W. M. L. Coplin, Mr. J.A. Carlisle, Prof. J. M. Da Costa, Dr. J.C. Da Costa, Dr. J. Chalmers Da Costa, Prof. F. X. Dercum, Dr. A. J. Dundore, Dr. G. Benson Dunmire, Dr. Andrew J. Downs, Dr. A. A. Eshner, Dr. Emil Fisher, Dr. J. M. Fisher, Prof. W. S. Forbes, Dr. L. Webster Fox, Mr. James A. Freeman, Dr. George Friebis, Dr. J. H. Gibbon, Dr. W. W. Glentworth, Dr. George Goebel, Dr. George W. Gould, Dr. Wm. H. Green, Dr. C. A. Groff, Dr. John S. Groves, Dr. Theodore H. Gruel, Prof. H. A. Hare, Dr. B. F. Hawley, Dr. J. H. Hassenplug, Dr. H. F. Hansell, Dr. John T. Hampton, Dr. W. Joseph Hearn, Dr. J. Frederic Herbert, Dr. A. Hewson, Prof. J. W. Holland, Dr. Orville Horwitz, Dr. A. H. Hulshizer, Dr. George Holland, Dr. Horace G. Hill, Dr. J. A. Irwin, Dr. W. S. Jones, Dr. Oliver A. Judson, Dr. Louis Jurist, Dr. A. W. Jacob, Prof. W. W. Keen, Dr. H. G. M. Kallock, Dr. D. B. Kyle, Dr. Francis W. Lewis, Dr. J. K. Lineaweaver, Dr. J. A. Lippincott, Mr. George D.

McCreary, Dr. J. J. McFadden, Dr. Thomas J. Mays, Dr. William K. Mattern, Dr. J. P. Mann, Dr. Isaac Massey, Dr. G. Hudson Makuen, Dr. J. Ewing Mears, Dr. A. K. Minich, Dr. George R. Moorhouse, Professor E. E. Montgomery, Mr. Edward Morrell, Dr. William M. Moss, Dr. J. D. Nash, Dr. Geo. J. Newgarden, Dr. R. J. Phillips, Dr. George Purviance, Prof. Theophilus Parvin, Dr. J. B. Roberts, Dr. Edwin Rosenthal, Dr. Reed, Dr. Chas. E. Sajous, Hon. Furman Sheppard, Dr. S. McCuen Smith, Professor Henry W. Stelwagon, Dr. I. P. Strittmatter, Dr. L. W. Steinbach, Dr. D. D. Stewart, Dr. M. J. Stern, Dr. S. R. Sterling, Dr. N. Newlin Stokes, Dr. Julius Salinger, Professor Wm. Thomson, Dr. J. Thorington, Dr. Wm. C. Todd, Dr. L. Turnbull, Dr. E. W. Tully, Dr. J. R. Umstad, Dr. E. L. Vansant, Dr. William F. Waugh, Dr. W. H. Warder, Dr. Charles B. Warder, Mr. Thomas B. Wanamaker, Dr. William H. Wehner, Mr. Edward H. Weil, Professor J. C. Wilson, Dr. M. H. Williams, Professor H. Augustus Wilson, Dr. Laurence Wolff, Dr. John L. Yard, Dr. William Hilt, Dr. H. A. Arnold, Dr. W. A. K. Vanneman, Dr. H. G. Bruner, Dr. Daniel Shannon, Dr. Gustave P. Gehring and Dr. John B. Chapin.

The Committee of Arrangements comprised Drs. W. W. Keen, H. A. Hare, H. Augustus Wilson and E. E. Graham.

FEVERNAGER.—What is asserted to be a new variety of influenza has made its appearance at Agram, and although it may not be more satisfactory than the usual variety, it is certainly a much more active and interesting disease.

According to the newspaper reports the patient's chief symptoms are a desire to "climb on the stove," and a tendency to commit assault and battery on every one who approaches him. Ignorant people may call this disease a new form of influenza, but those who have lived in New Jersey and Indiana will at once recognize it as the disease known in the West as "fevernager," and elsewhere as chills and fever. A desire to climb on the stove and sit there is one of the earliest and most characteristic symptoms of this disease, and although in consequence of Mr. Edison's delay in inventing his non-conducting trousers, sitting on the stove seldom proves to be of any real comfort to the patient, the desire to perform that feat is daily expressed by thousands of shivering rural residents. Similarly, a desire to have the life's blood of the person who asks the aforesaid rural resident if he has the chills and fever, is always expressed in strong language, provided the patient's teeth can be kept quiet for a moment, and if this is impracticable, his indignation at the suggestion of the existence of chills and fever in his neighborhood takes the form of throwing the nearest available missile at the questioner. There can be no doubt that this is the disease which has broken out at Agram, and to call it a new form of influenza is neither truthful nor fair.—*Herald.*

THE number of "quack" medicines on the market is multiplying at an alarming rate. Headache and catarrh cures seem to be in the lead, and it is said that the latter appear at the rate of one each day. Everywhere we are confronted by the advertisements of these wonderful remedies. Perhaps, in the millennium that is coming, the sale of these mixtures will be controlled by law, or, better still, we shall all be too wise to be gulled by unscrupulous advertisers, to swallow their nostrums at will.

THE following touching editorial recently appeared in a California medical paper. It shows how an innocent and confiding nature may often be imposed upon, even in the West:

"Before we took upon ourselves the editorial work of this journal we had always looked upon all worthy members of the medical profession as men of the strictest integrity; but our faith is fast weakening, and when we have had a few more promises unkept, in regard to subscriptions, contributions, etc., we will be constrained to believe that doctors, as well as other people, have a distant relationship with Ananias."

IN reply to an inquiry as to whether there is any law to compel a druggist to give back a copy of a doctor's prescription, the *New York Herald* states that a druggist has no claim whatever on a prescription. The ownership of the tangible part of the article—the paper—is in the person prescribed for, or at least in the person who employed the physician. The formula is the property of the doctor, subject to the right of the patient to make a reasonable use thereof. But the druggist has no right to either paper or ideas. He would be justified only in preserving a copy for his own protection.

—*Doctor's Weekly.*

PROFESSOR PETER ON THE PARROT EPIDEMIC.—Professor Peter, who has had several of the patients attacked with the malady supposed to have been transmitted by the parrots from Brazil, under his care at the Hôpital Necker, a few days ago gave an interesting clinical lecture on these cases. He said he had come to the conclusion that, in many instances, the malady was transmitted direct from the birds to the human subject; in others from patient to patient. The man who imported the birds was one of M. Peter's patients, and was believed by him to have contracted his illness by contact with the parrots. A female patient said she had fed the birds by holding their food between her lips, and letting them peck at it. She had also kissed the birds on the beak. Two of the birds were given to her mother, and three members of her family had since died. A night nurse, who nursed one of the patients, was also attacked, and presented exactly the same symptoms. M. Peter is inclined to consider the malady as a "sort of typhus," resembling the malady that attacked the Annamites, termed by him *typhus à rechute*, resulting from unhealthy conditions. These Annamites were packed together on an unhealthy boat; several fell ill on the journey, and one died; three others died at Toulon, and the remainder fell ill on reaching Paris. M. Peter questions the accuracy of M. Dujardin-Beaumetz's conclusions, and accepts those of Professor Cornil, who made a *post-mortem* examination in one case, and said, "It is a new disease, neither pneumonia nor typhoid fever; this is the first time I have met with it."—*B. M. Journal.*

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